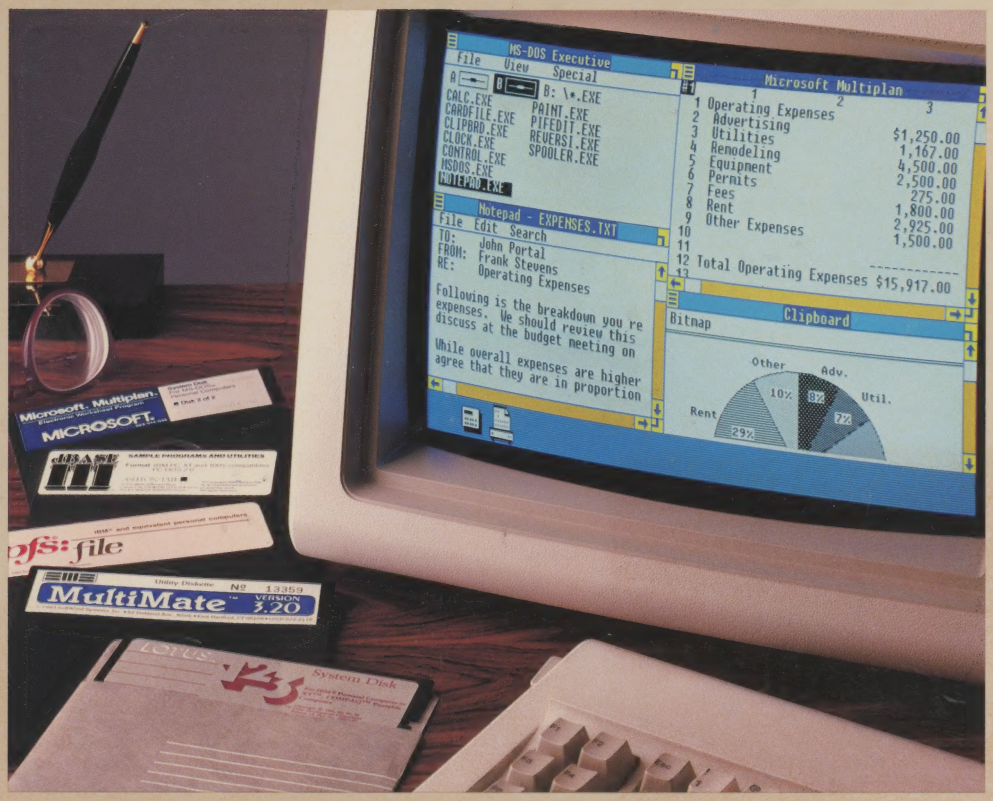
MICROSOFT®

Microsoft® Windows

Operating Environment



User's Guide

Microsoft® Windows User's Guide

Version 1.0

Microsoft Corporation

J. Michael Anglin
6912 N.W. 18th Ave.
Rochester, MN 55901
JAN 9 1987

Information in this document is subject to change without notice and does not represent a commitment on the part of Microsoft Corporation. The software described in this document is furnished under a license agreement or nondisclosure agreement. The software may be used or copied only in accordance with the terms of the agreement. It is against the law to copy this software on magnetic tape, disk, or any other medium for any purpose other than the purchaser's personal use.

© Copyright Microsoft Corporation, 1985

If you have comments about this documentation or the software, complete the Software Problem Report at the back of this manual and return it to Microsoft.

Microsoft, the Microsoft logo, Multiplan, and MS-DOS are registered trademarks, and The High Performance Software and RAMDrive are trademarks of Microsoft Corporation.

dBASE II and dBASE III are registered trademarks of Ashton-Tate.

Epson is a registered trademark of Epson America, Incorporated.

Harvard Project Manager is a trademark of Harvard Software, Incorporated.

IBM is a registered trademark, and TopView is a trademark of IBM Corporation.

INTEL is a registered trademark, and Above is a trademark of Intel Corporation.

Lotus and 1-2-3 are registered trademarks, and Symphony is a trademark of Lotus Development Corporation.

R:base 4000 is a trademark of Microrim, Incorporated.

Sidekick is a registered trademark of Borland International.

Volkswriter is a registered trademark of Lifetree Software, Incorporated.

WordPerfect is a trademark of Satellite Software International.

WordStar is a registered trademark of Micropro International.

Document Number 050050001-100-R00-0885

Contents

Welcome vii
About Windows viii
About This Guide xiii
The Microsoft Windows Package xiv
What You Need xv

1 Getting Started 1
Setting Up Windows 2
To Set Up Windows on a Two-Drive System 2
To Set Up Windows on a Hard Disk System 2
Starting Windows 3

2 Learning Windows 7
Exercise 1: Running Applications 8
Exercise 2: Choosing Commands 10
Exercise 3: Choosing Options 14
Exercise 4: Expanding the MS-DOS Window 16
Exercise 5: Moving Windows on the Screen 22
Exercise 6: Changing the Size of a Window 25
Exercise 7: Using the Calculator 27
Exercise 8: Shrinking a Window 28
Exercise 9: Zooming a Window 29
Exercise 10: Saving a Document 30
Exercise 11: Closing an Application 30
Exercise 12: Ending a Windows Session 31

3 Learning Windows With the Mouse 33
About the Mouse 34
Exercise 1: Running Applications 35
Exercise 2: Choosing Commands 37
Exercise 3: Choosing Options 40
Exercise 4: Expanding the MS-DOS Window 42
Exercise 5: Moving Windows on the Screen 47
Exercise 6: Changing the Size of a Window 48
Exercise 7: Using the Calculator 51
Exercise 8: Shrinking a Window 52
Exercise 9: Zooming a Window 53
Exercise 10: Saving a Document 54
Exercise 11: Closing an Application 54
Exercise 12: Ending a Windows Session 55

4 Techniques 57
Selecting Windows and Icons 58
Selecting an Object in a Window 59
Extending a Selection 59
Choosing Commands from Menus 60
The System Menu 62
Choosing Options in Dialog Boxes 62
Running Applications 65
Expanding Icons 65
How Windows Arranges Your Screen 66
Moving Windows 67
Changing the Size of Windows 68
Zooming 69
Shrinking Windows 70
Scrolling 70
Messages from Unselected Windows 71
Closing Applications 71
Ending a Session 72

5 Using the MS-DOS Executive 73
Making Selections 75
Scrolling 77
Running an Application 77
Working With Files 79
Changing the Names of Files 79
Copying Files 80
Copying Groups of Files 80
Printing Files 81
Deleting Files 82
Getting Information About Files 82
Working With Directories 83
Creating Directories 83
Changing the Way a Directory Looks 83
Changing Directories 85
Displaying Multiple Directories 87
Printing Directory Listings 88
Deleting Directories 88
Working With Disks 89
Naming Disks 89
Running MS-DOS Utility Programs 90

6 Using the Clipboard 91

7 Using the Control Panel 95
Changing the Time 96
Changing the Date 97
Changing the Cursor Blink Rate 98
Changing Mouse Double Click Rate 98

Adding and Removing Printers 99
Adding Printers 99
Removing Printers 101
Adding and Removing Fonts 102
Configuring Your System 102
Setting Up Printer Connections 102
Setting Up Printers 103
Setting Up a Communications Port 103
Selecting Screen Colors 104
Changing the Mouse Button 106

8 Using the Spooler 107
The Spooler Commands 109
The Priority Menu 109
The Control Menu 109
Spooler Messages 110

9 Techniques for Standard Applications 111
Running Standard Applications 112
How Windows Displays Standard Applications 113
Running Multiple Applications 115
Running Large Standard Applications 116
Closing Standard Applications 117
Working With Standard Applications 117
Moving From Application to Application 117
Scrolling the Window 119
Transferring Information 120
Program Information Files 124
When to Change PIF Files 125
Using the PIF Editor 125
PIF File Options 127

10 Commands 131
The System Menu 132
The MS-DOS Executive 133
The File Menu 133
The View Menu 133
The Special Menu 134
The Control Panel 135
The Installation Menu 135
The Setup Menu 135
The Preferences Menu 136

Appendix A Customizing Your WIN.INI File 137
Settings in [Extensions] 138
Settings in [Windows] 138
Starting Applications Automatically 139
Settings in [Devices] 140
Settings in [Colors] 140
Settings in [Ports] 141
Settings in [Pif] 141

Appendix B System Messages 143
Windows Messages 143
MS-DOS Executive Messages 145

Appendix C Using Extended Memory for Standard Applications 151
How to Set Up RAMDrive 152
The RAMDrive Command Line 152
Calculating RAMDrive Size Requirements 154
Sample RAMDrive Command Lines 155
How to Set Up Windows to Use RAMDrive 156
How to Use RAMDrive with Windows 156
The RAMDrive Messages 157
Using Intel's Above Board with Microsoft Windows 160
How to use Extended Memory with Microsoft Windows 160

Terms 161

Index 167

Welcome

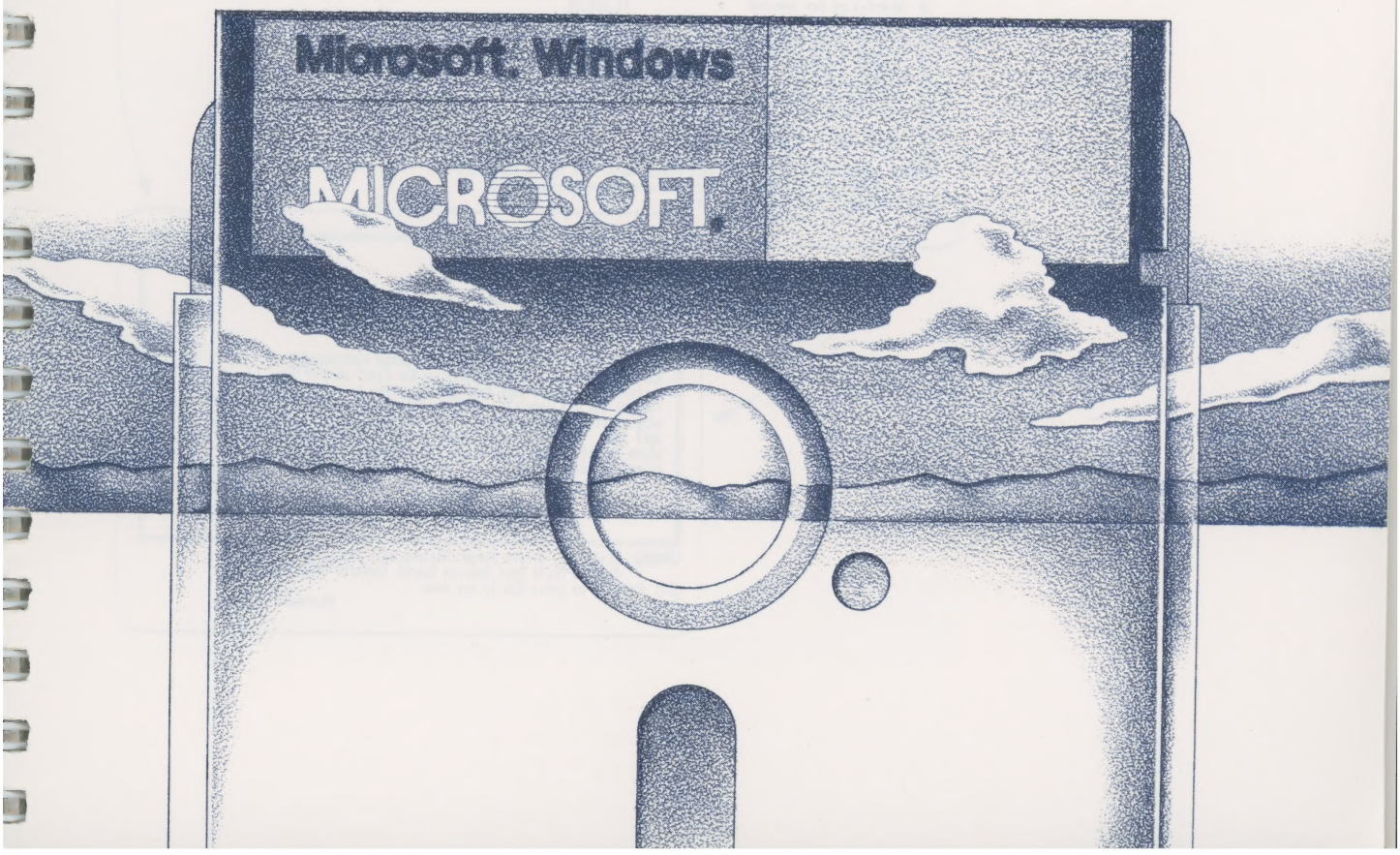
Microsoft® Windows is an extension of the DOS operating system. Windows allows you to integrate the different tasks you perform on your personal computer, increasing your efficiency.

Windows is powerful

With Windows, you can work with several programs at once. You can switch between programs with a couple of keystrokes or a click of a mouse, reducing the time required to move from one application to another. And since you never have to quit a program, you can continue from where you left off.

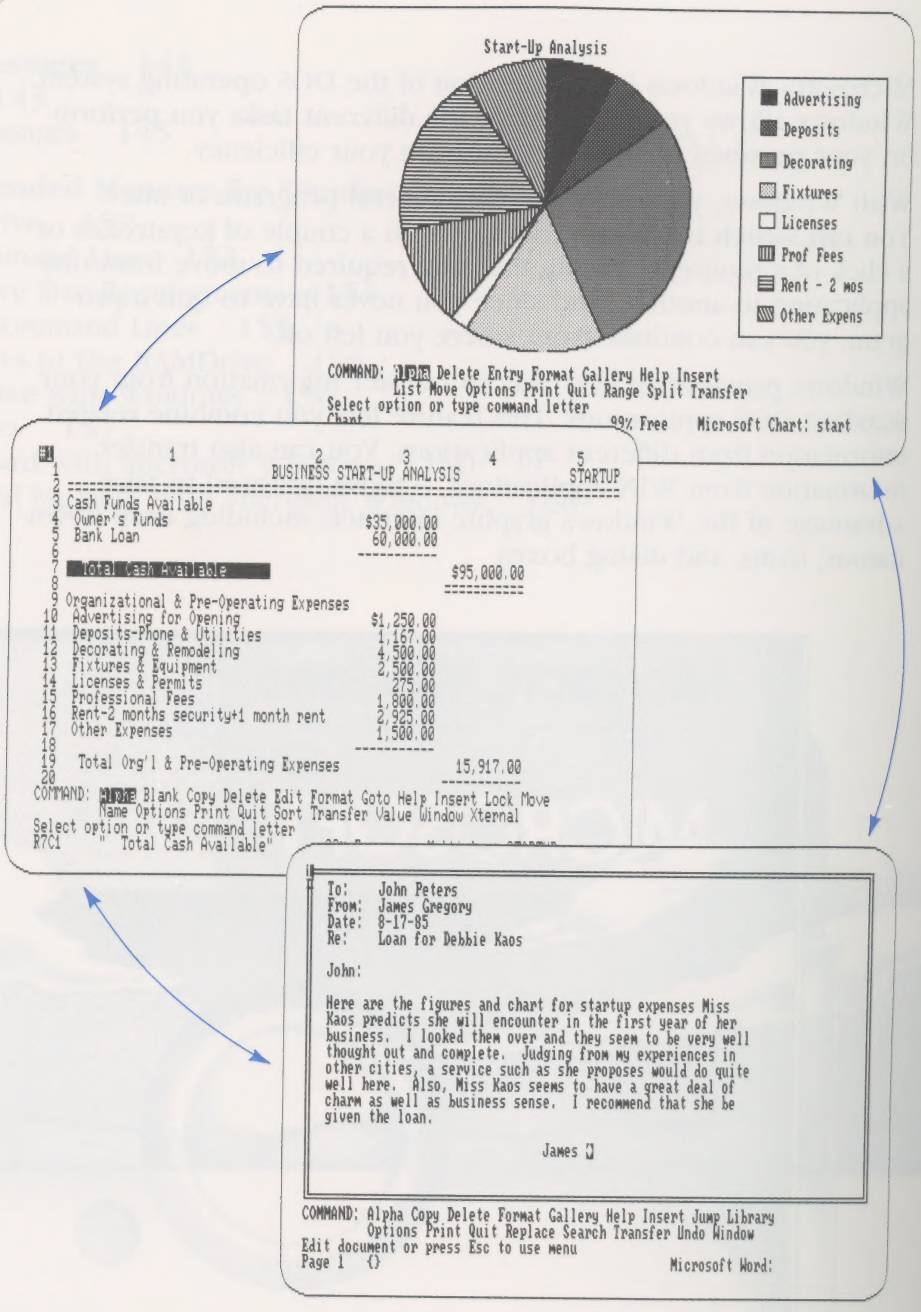
Windows is versatile

Windows provides an easy way to transfer information from your standard DOS applications. This feature lets you combine related information from different applications. You can also transfer information from WIN applications — those designed to take advantage of the Windows graphic interface, including drop-down menus, icons, and dialog boxes.

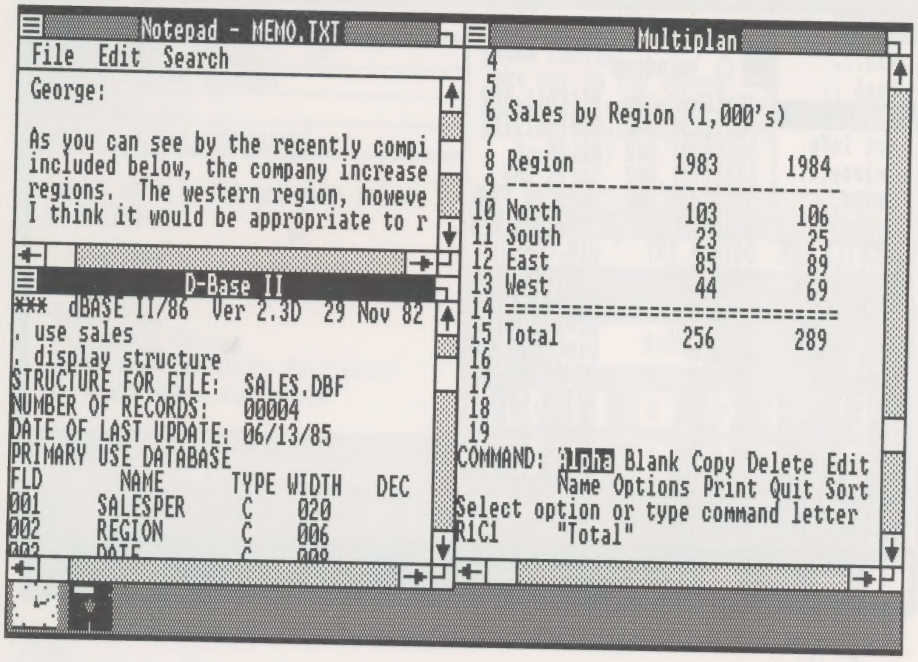


About Windows

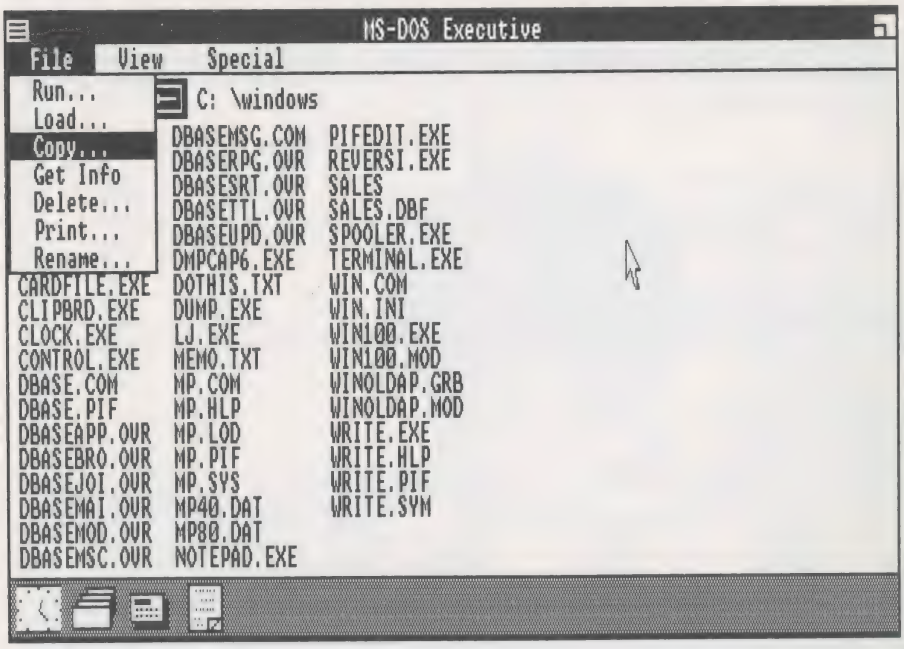
With Windows, you can run several different application programs at once, and switch from one to another without quitting any of them.

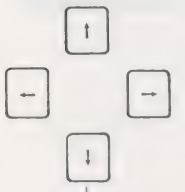

Start-Up Analysis
Advertising
Deposits
Decorating
Fixtures
Licenses
Prof Fees
Rent - 2 mos
Other Expens
COMMAND: Alpha Delete Entry Format Gallery Help Insert
List Move Options Print Quit Range Split Transfer
Select option or type command letter
Chart 99% Free Microsoft Chart: start
BUSINESS START-UP ANALYSIS
STARTUP
Cash Funds Available
Owner's Funds $35,000.00
Bank Loan 60,000.00
Total Cash Available $95,000.00
Organizational & Pre-Operating Expenses
Advertising for Opening $1,250.00
Deposits-Phone & Utilities 1,167.00
Decorating & Remodeling 4,500.00
Fixtures & Equipment 2,500.00
Licenses & Permits 275.00
Professional Fees 1,800.00
Rent-2 months security+1 month rent 2,925.00
Other Expenses 1,500.00
Total Org'l & Pre-Operating Expenses 15,917.00
COMMAND: Alpha Blank Copy Delete Edit Format Goto Help Insert Lock Move
Name Options Print Quit Sort Transfer Value Window Xternal
Select option or type command letter
R7C1 "Total Cash Available"
To: John Peters
From: James Gregory
Date: 8-17-85
Re: Loan for Debbie Kaos
John:
Here are the figures and chart for startup expenses Miss Kaos predicts she will encounter in the first year of her business. I looked them over and they seem to be very well thought out and complete. Judging from my experiences in other cities, a service such as she proposes would do quite well here. Also, Miss Kaos seems to have a great deal of charm as well as business sense. I recommend that she be given the loan.
James
COMMAND: Alpha Copy Delete Format Gallery Help Insert Jump Library
Options Print Quit Replace Search Transfer Undo Window
Edit document or press Esc to use menu
Page 1 {} Microsoft Word:

Microsoft Windows gives you a new and more visual way of working by organizing your work in *windows*. Many standard applications and all WIN applications can appear in windows on the screen at the same time.


Notepad - MEMO.TXT
File Edit Search
George:
As you can see by the recently compi
included below, the company increase
regions. The western region, howeve
I think it would be appropriate to r
D-Base II
*** dBASE II/86 Ver 2.3D 29 Nov 82
. use sales
. display structure
STRUCTURE FOR FILE: SALES.DBF
NUMBER OF RECORDS: 00004
DATE OF LAST UPDATE: 06/13/85
PRIMARY USE DATABASE
FLD NAME TYPE WIDTH DEC
001 SALESPER C 020
002 REGION C 006
Multiplan
Sales by Region (1,000's)
Region 1983 1984
North 103 106
South 23 25
East 85 89
West 44 69
Total 256 289
COMMAND: Alpha Blank Copy Delete Edit
Name Options Print Quit Sort
Select option or type command letter
R1C1 "Total"

Windows provides an easy method for running your applications, including drop-down menus, icons, and the choice of using your keyboard, a mouse, or both together.

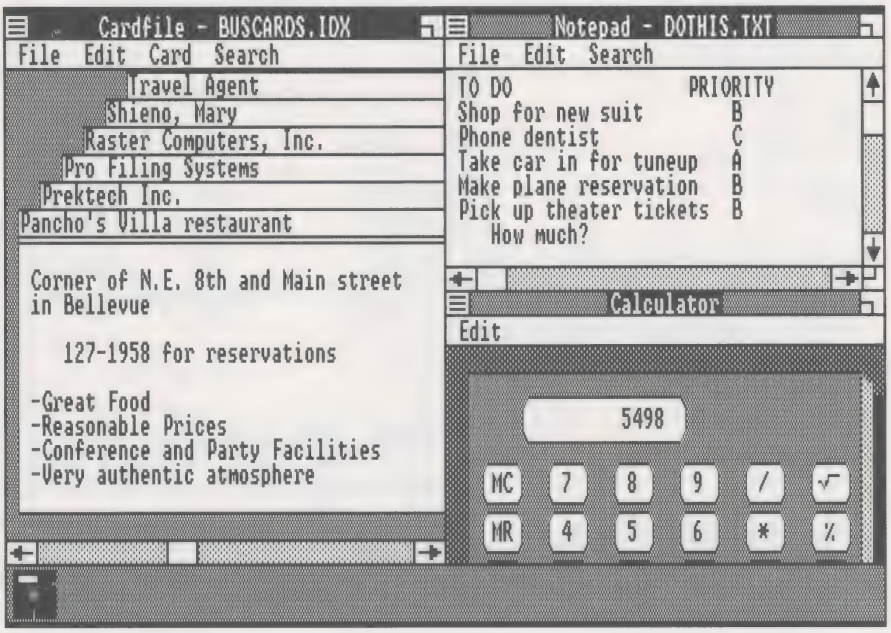




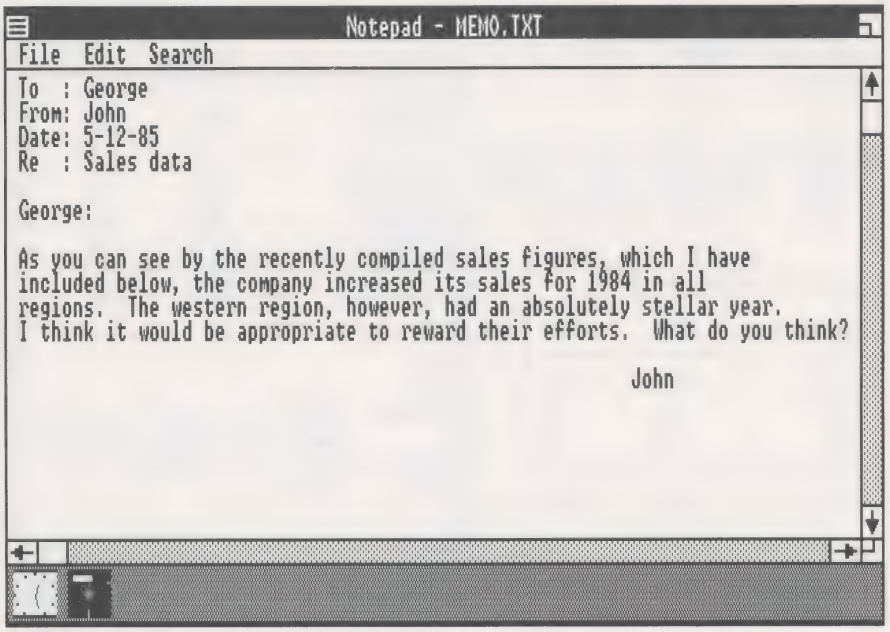
You can use the direction keys (UP, DOWN, RIGHT, LEFT) to move around the window.

Or just point with the mouse and click.

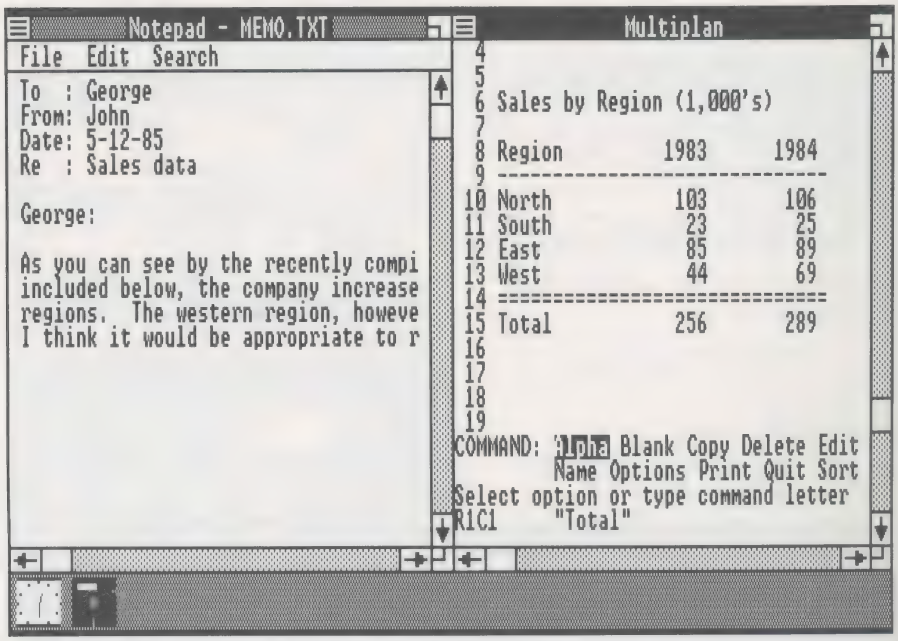
Windows provides several useful Desktop applications.



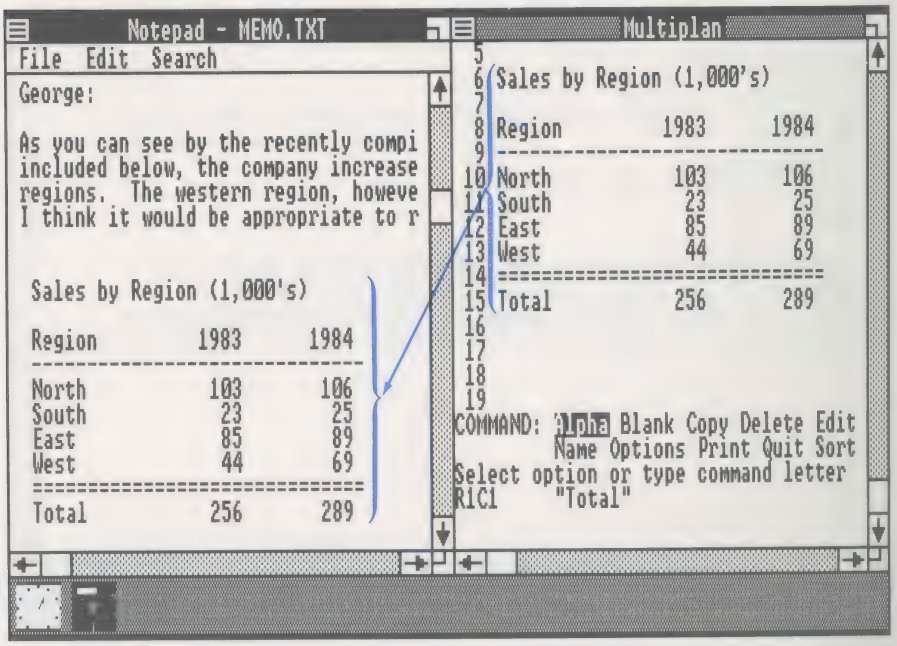
Windows makes it easy to combine information from several applications. You can work in one application...


Notepad - MEMO.TXT
File Edit Search
To : George
From: John
Date: 5-12-85
Re : Sales data
George:
As you can see by the recently compiled sales figures, which I have
included below, the company increased its sales for 1984 in all
regions. The western region, however, had an absolutely stellar year.
I think it would be appropriate to reward their efforts. What do you think?
John

Then, you can open another application and work in it...



And, finally, you can integrate the information from one application into the other.



About This Guide

This guide is designed to help you explore and use Microsoft Windows.

Go to	For
Chapter 1 Getting Started	information on setting up and starting Windows
Chapter 2 Learning Windows	lessons giving keyboard users hands-on experience with Windows
Chapter 3 Learning Windows With the Mouse	lessons giving mouse users hands-on experience with Windows
Chapter 4 Techniques	summaries of tasks Windows can perform
Chapter 5 Using the MS-DOS Executive	details on how to use the MS-DOS Executive to work with applications, files, directories, and disks
Chapter 6 Using the Clipboard	information on copying and moving information within and between applications
Chapter 7 Using the Control Panel	instructions on changing the settings for your system on the Control Panel
Chapter 8 Using the Spooler	information on using the spooler to print files and control jobs in the print queue

Chapter 9 Techniques for Standard Applications	information on using standard applications with Windows, and creating and editing program information files
Chapter 10 Commands	information about Windows menus and commands
Appendix A Customizing Your WIN.INI File	information on customizing your WIN.INI file
Appendix B System Messages	information on what the Windows messages mean
Appendix C Using Extended Memory for Standard Applications	information on RAMDrive™
Terms	definitions of terms used in this guide

The Microsoft Windows package

The Microsoft Windows Package

The Microsoft Windows package includes

- The Microsoft Windows Setup disk
- The Microsoft Windows Build disk
- The Microsoft Windows Desktop Applications disk, which contains Windows applications
- The Microsoft Windows Utilities disk, which contains printer device drivers and program information (PIF) files for a variety of DOS applications
- The *Microsoft Windows User's Guide*
- The *Microsoft Windows Desktop Applications User's Guide*
- The *Microsoft Windows Quick Reference Card*

What You Need

What you need to use Microsoft Windows

To use Microsoft Windows, you need

- A personal computer running the DOS operating system with two double-sided disk drives or a hard disk
- At least 256K of memory (to run multiple applications, 512K of memory is recommended)
- A monochrome graphics monitor or color monitor
- DOS 2.0 or later version
- A graphics adapter card

Note Be sure to read the README.DOC file on the Microsoft Windows Utility disk. README.DOC contains updated Windows information unavailable in this manual.

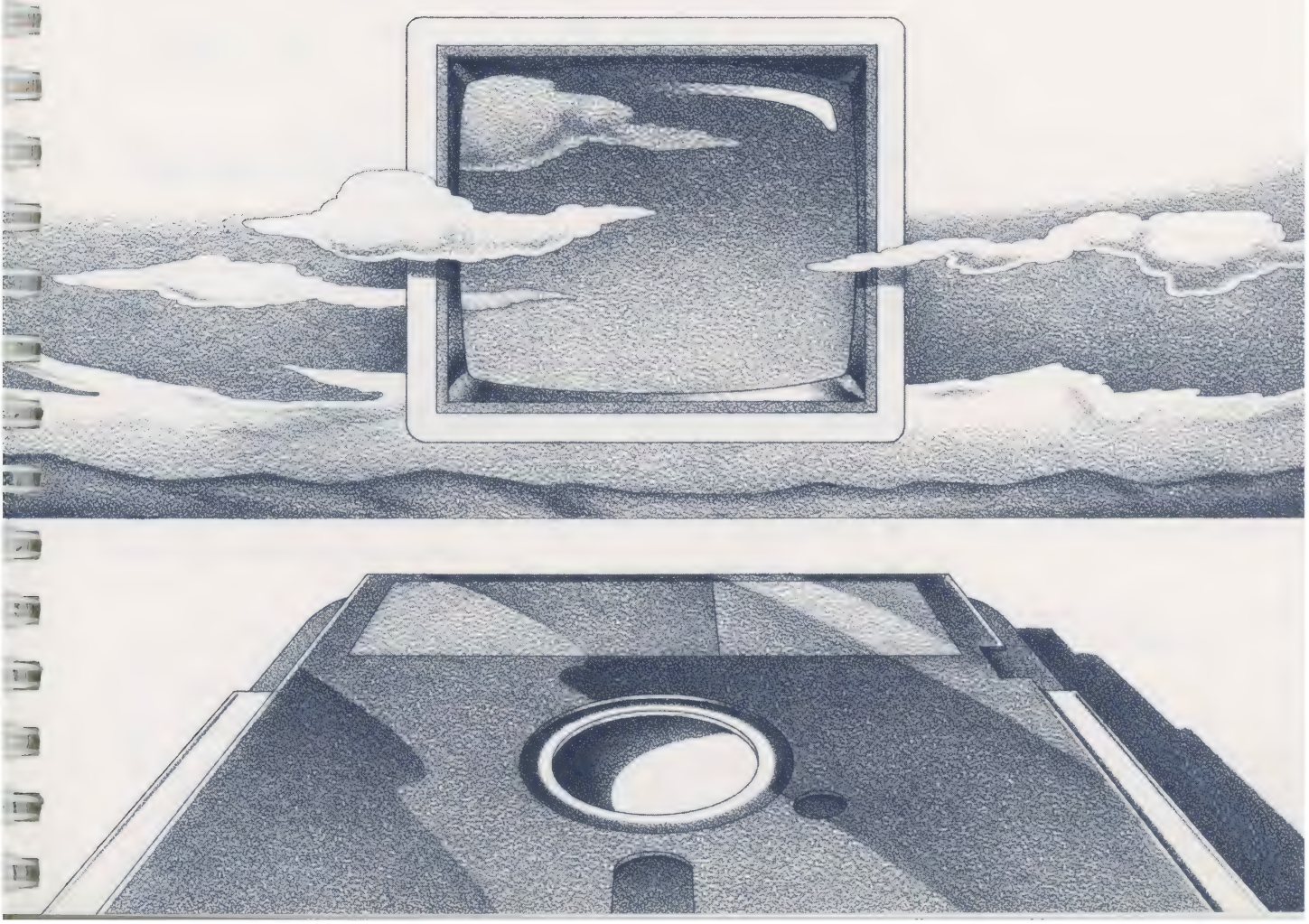
Windows supports several graphics adapter cards (including the IBM® Color Graphics Monitor Adapter and IBM Enhanced Graphics Adapter). It also supports a number of optional pointing devices (including the Microsoft Serial Mouse and Bus Mouse) and printers. The Setup program will list the available options.

See the hardware guide for your mouse for instructions on how to install it on your microcomputer.

Note If you have a Microsoft Bus Mouse, and Windows does not respond to mouse movements, you may need to change the jumper on the mouse printed circuit board. Generally, you should set the jumper to IRQ2 for the IBM PC XT and IRQ3 for the IBM PC AT. Refer to the manual for your mouse bus card for details on how to change the jumper.

1 Getting Started

Before you start using Microsoft® Windows, you should be familiar with your computer and its user's manual. You need to know how to turn the computer on, which disk drive is drive A, and what keys you press to reset, or "boot," your computer.



Setting Up Windows

You will use the Setup program to create a version of Windows tailored to your computer. If you have a hard disk, Setup will put this version of Windows in the directory you specify. If you have two floppy disk drives, Setup will put Windows on a floppy disk you supply.

To Set Up Windows on a Two-Drive System

Setting up Windows on a two-drive system

To set up Windows on a two-drive (two floppy drive) system, you will need

- A DOS disk
- Several blank, unformatted disks
- Microsoft Windows Setup disk
- Microsoft Windows Build disk
- Microsoft Windows Utilities disk
- Microsoft Windows Desktop Applications disk

To set up Windows

1. Put the DOS disk in drive A and close the door.
2. Turn on the computer.
3. Enter the date and time if DOS prompts for them.
4. Replace the DOS disk with the Windows Setup disk. Close the door.
5. Type *setup* and press the ENTER key.
6. Follow the instructions on the screen.

To Set Up Windows on a Hard Disk System

Setting up Windows on a hard disk

To set up Windows on a hard disk, you will need

- A DOS disk
- Microsoft Windows Setup disk
- Microsoft Windows Build disk
- Microsoft Windows Utilities disk
- Microsoft Windows Desktop Applications disk

To set up Windows

1. Turn on the computer.
2. Enter the date and time if DOS prompts for them.
3. Put the Windows Setup disk in drive A and close the door.
4. Type *A:* and press ENTER.
5. Type *setup* and press ENTER.
6. Follow the instructions on the screen.

After running Setup, store your original Windows disks in a safe place; if Windows is ever damaged, you'll need to copy the disks again.

Note On a two-drive system, Setup copies DOS to your Windows Startup disk. You may want to copy other startup files, such as AUTOEXEC.BAT and CONFIG.SYS, to this disk as well.

You need to run the Setup program whenever you add new hardware such as a mouse card or a new graphics card to your computer system.

Starting Windows

Once you have set up Microsoft Windows on your computer, you can start learning to use Windows.

Starting Windows on a two-drive system

To start Windows on a two-drive system

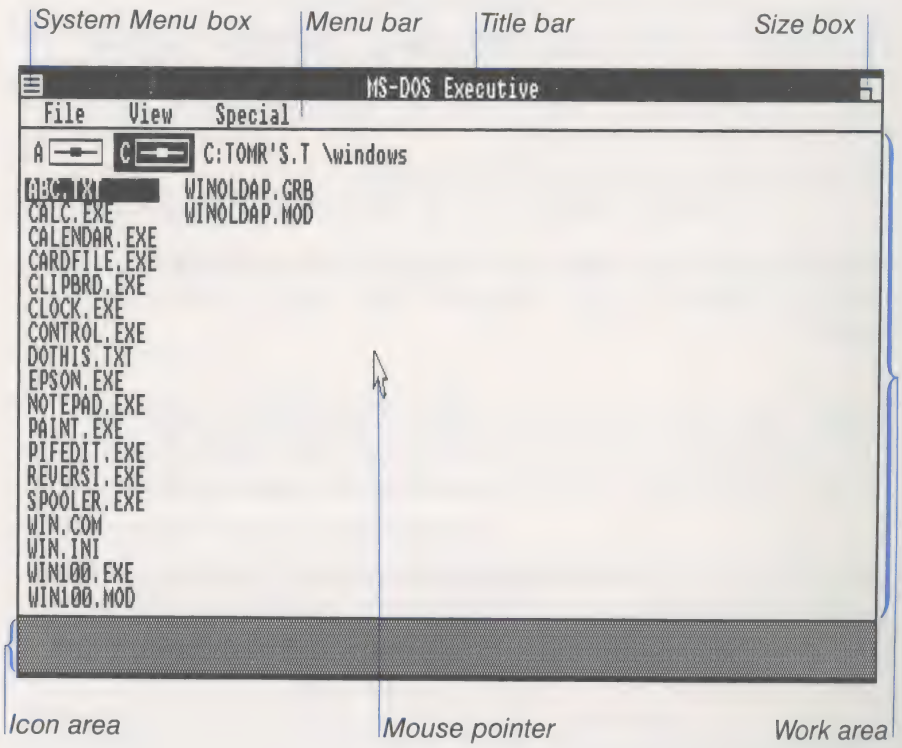
1. Insert your Windows Startup disk in drive A.
2. Insert your Windows System disk in drive B.
   (Both disks are created with the Setup program.)
3. Turn on your computer.
4. Enter the date and time if you are prompted to.
5. Type win and press ENTER.

Starting Windows on a hard disk

To start Windows on a hard disk system

1. Turn your computer on.
2. Enter the date and time if you are prompted to.
3. At the system prompt, type *cd* followed by the name of the directory where you have set up your Windows files and press ENTER.
4. Type *win* and press ENTER.

Your computer starts running Windows. Your screen will look like this:



- The *flashing underscore* shows where you are on the screen. If you have a mouse installed, you will also see an arrow pointer.
- The *work area* contains the windows. The MS-DOS Executive window is run automatically when you start Windows.
- Icons representing applications appear in the *icon area*. Right now, this area is empty because only the MS-DOS Executive is running.
- The *title bar* displays the name of the application in that window.
- The *menu bar* contains the names of the command menus in an application.
- The *System Menu* box can be used to display the System Menu. This menu is common to all Windows programs.
- The *size box* can adjust the size of the window if you have a mouse.

Scroll bars will appear in windows that have more than one screen of information.

Note Your screens may look slightly different from those in the illustrations because Windows adapts to your computer system when you run the Setup program.

When you start Windows for the first time, all files in your MS-DOS Executive window will be part of Microsoft Windows. Do not delete or rename any of them. The files you need for the following exercises may appear in slightly different places on your screen than they do in the illustrations.

2 Learning Windows

The exercises in this chapter will give you hands-on experience with Microsoft Windows. The exercises are designed for Windows users who will work from the keyboard. If you have a mouse, go to Chapter 3, "Learning Windows With the Mouse," for exercises designed for mouse users.

If you are a new user, you will find this chapter especially helpful. The step-by-step instructions and the illustrations will tell you exactly what to do.

In this chapter you will learn how to

- Run an application
- Choose a command from a menu
- Choose options in dialog boxes
- Expand an icon into a window on the screen
- Move windows on the screen
- Change the size of windows
- Use the Calculator
- Shrink a window into an icon
- Zoom a window
- Save an application document
- Close an application
- End a Microsoft Windows session

Exercise 1: Running Applications

The Desktop Applications disk contains some application programs you can use to practice with Windows. In the following exercises you will use Notepad, a text editing application, to edit a list of tasks.

▣ Start Windows.

If you have a two-drive system

If you have a two-drive system, look at the directory for the Desktop Applications disk:

1. Put the Windows Desktop Applications disk in drive A.
2. Press CTRL-A to highlight the drive A icon.

The drive icon is dark (showing that it is selected). The directory of the Desktop Applications disk appears in the MS-DOS Executive window.

If you have a hard disk

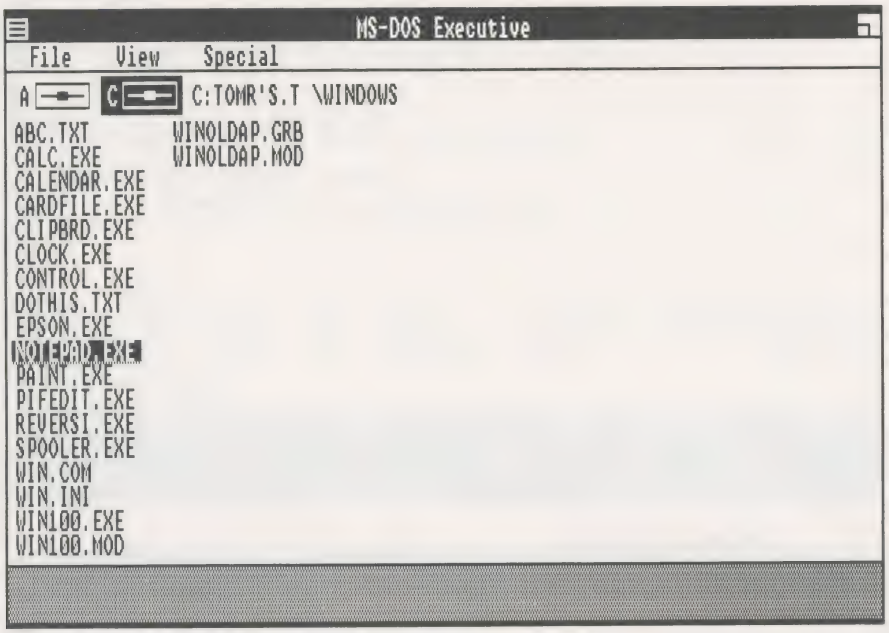
If you have a hard disk system, the files you need for these exercises are on your hard disk and should appear in your MS-DOS Executive window.

To use an application, you must first run it from the MS-DOS Executive window. Since you just started Windows, the MS-DOS Executive is on your screen now.

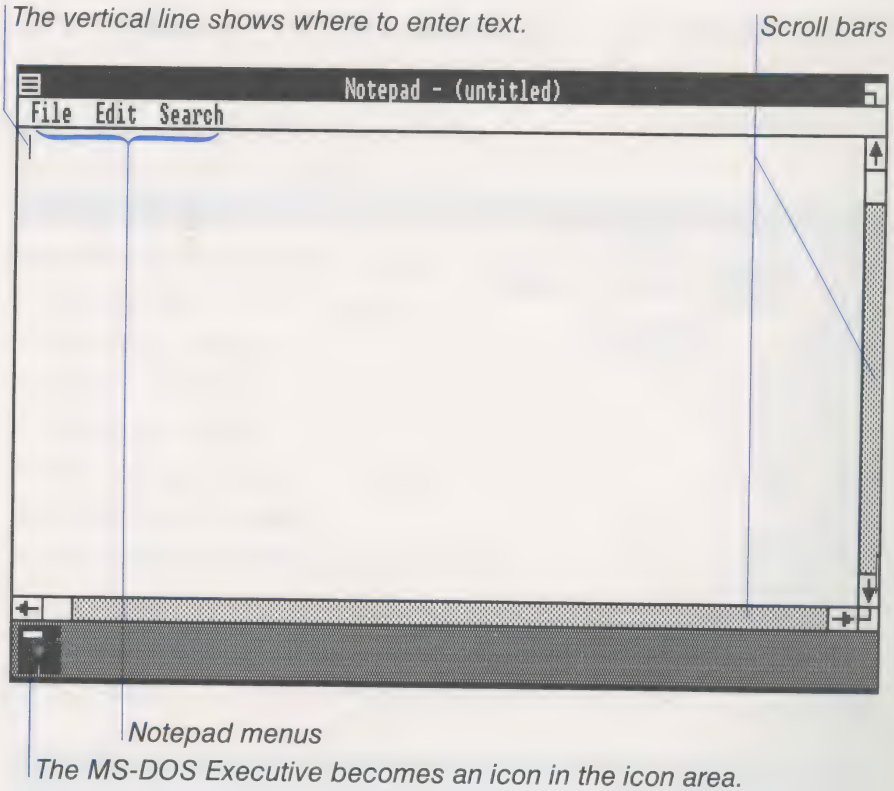
To run Notepad

Run Notepad

1. Press the DIRECTION keys to move the highlight to the filename NOTEPAD.EXE.



2. Press ENTER to run the program. ENTER always runs the highlighted program or application.


The vertical line shows where to enter text.
Scroll bars
Notepad - (untitled)
File Edit Search
Notepad menus
The MS-DOS Executive becomes an icon in the icon area.

Exercise 2: Choosing Commands

Windows commands are compactly organized in *menus* on the menu bar. Each application has its own menus.

To look at a menu, you first press the ALT key; the next key you press selects a menu or command.

Look at the Notepad menus

1. Hold down the ALT key.
2. Press the SPACEBAR. This displays the System Menu, which is common to all applications that appear in a window.
3. Release the ALT key. Once you display a menu, you can release the ALT key and the menu stays on the screen.
4. Press the RIGHT key. This displays the File Menu.
5. Press the RIGHT key to see the Edit Menu, and again to see the Search Menu.
6. When you are finished looking at the menus, press the ESC key.

Note Pressing the ESC key cancels whatever you are doing. In this case, it made the menu disappear.

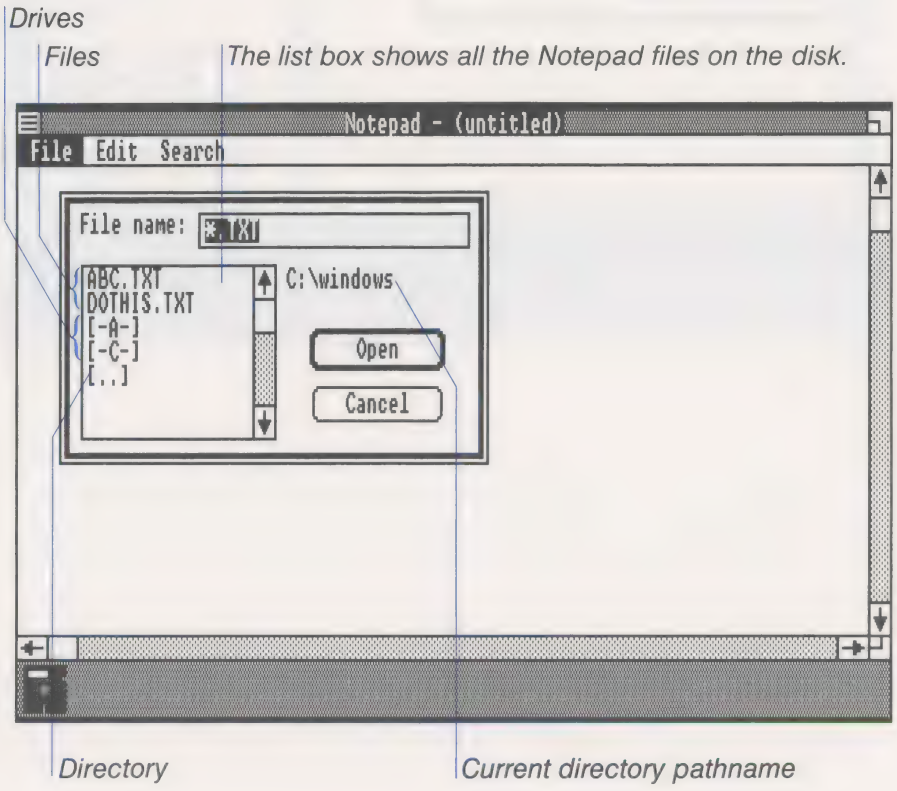
To choose a Windows command from a menu, move the highlight to the command you want by typing its initial letter. Press ENTER to carry out the command.

For example, choose the Open command, which opens files on the screen:

Choose the Open command

1. Hold down the ALT key and press SPACEBAR.
2. Release the ALT key.
3. Press the RIGHT key to see the File Menu.
4. Press O to highlight Open.
5. Press ENTER to carry out the command.

A dialog box appears. This means that Windows needs additional information — in this case, a filename to load — before it can carry out the command.

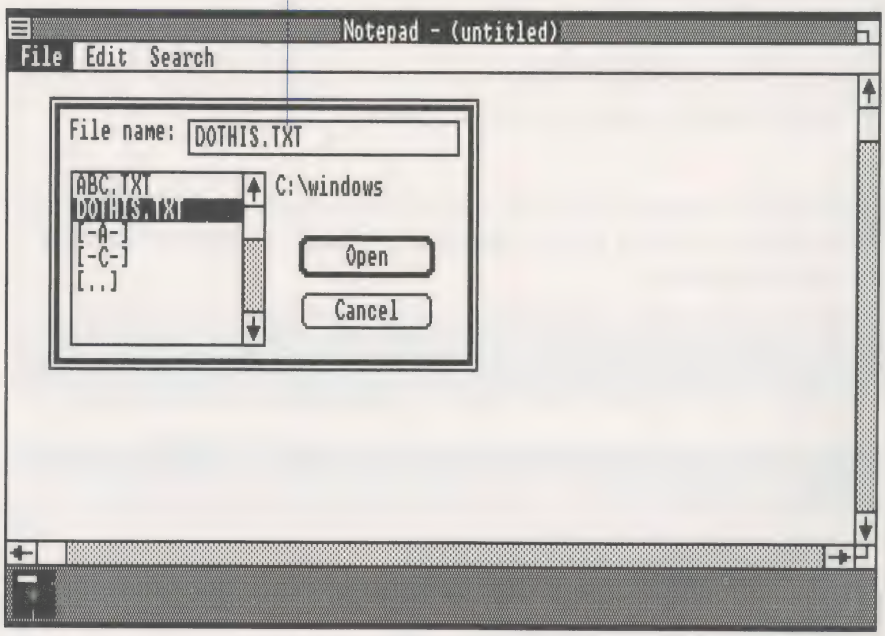


Highlight a filename

To highlight a filename in the list box

1. Press the TAB key to move to the list box. The TAB key moves the cursor from one part of a dialog box to another.
2. Press the DOWN key to move the highlight to DOTHIS.TXT.

The filename also appears in the text box.

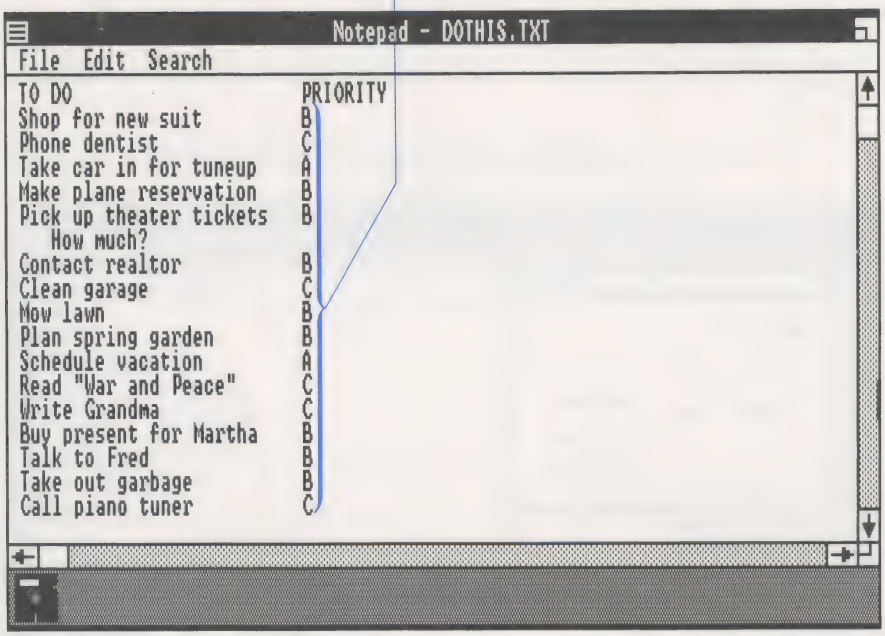


Now select the Open button:

Select the Open button

1. Press the TAB key to move the flashing underscore to the Open button.
2. Press SPACEBAR to carry out the Open command. SPACEBAR always carries out the action shown on the highlighted button.

The sample list appears in the Notepad window.



Exercise 3: Choosing Options

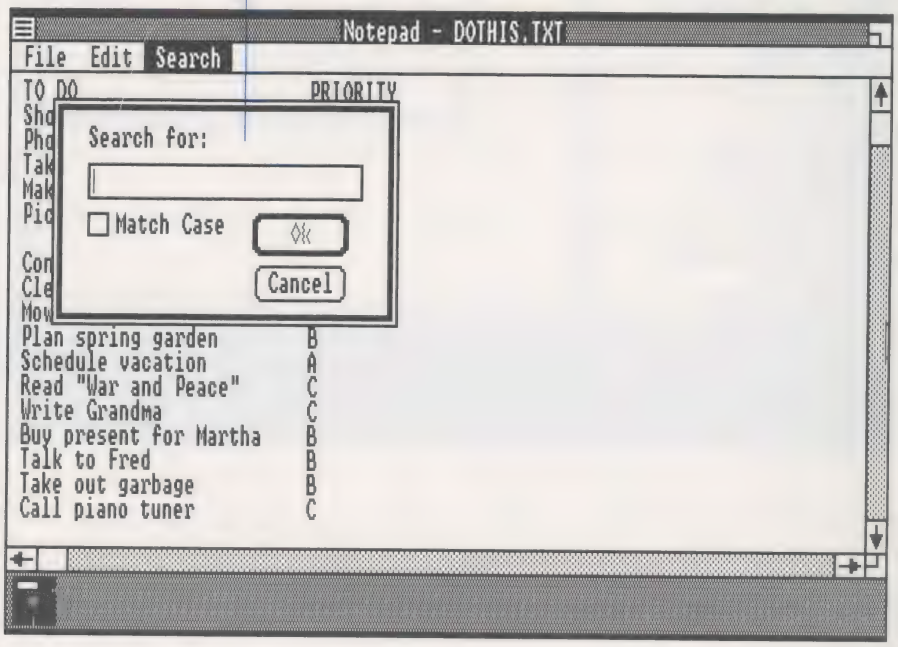
The Notepad document on your screen is a "To Do" list of tasks. These tasks are ranked by letter, with the letter "A" designating the most important.

First, use the Find command to find those important tasks:

Choose the Find command

1. Hold down the ALT key and press SPACEBAR. Release the ALT key.
2. Press the RIGHT key three times to go to the Search Menu.
3. Press F to highlight Find.
4. Press ENTER.

The Find dialog box appears when you choose Find.

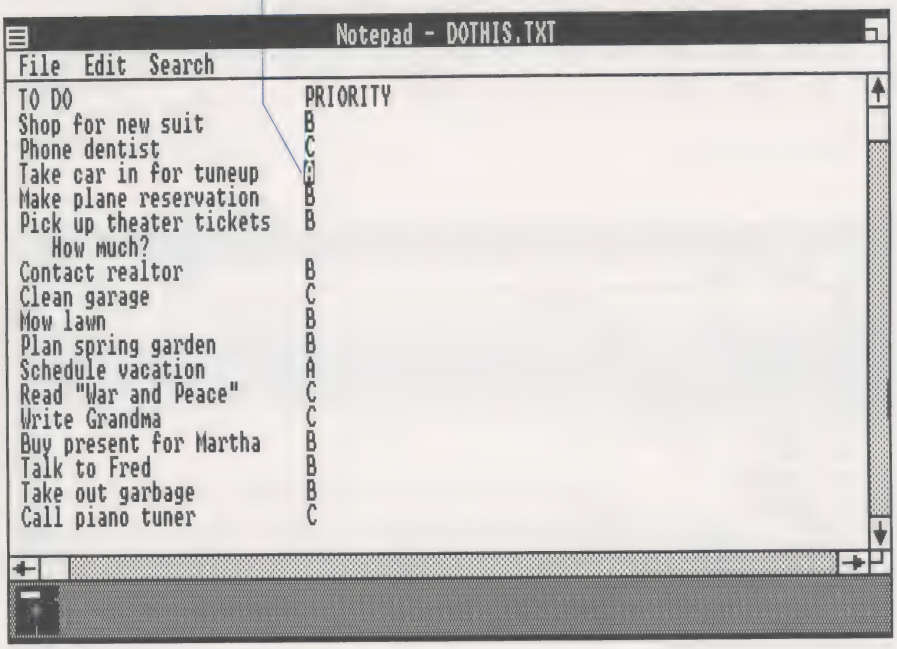


A dialog box appears, prompting you to type the text you are seeking.

Specify the text you want to find

1. Type the text you want to find in the text box at the top of the dialog box. In this case, type *A* to search for all the occurrences of "A" in the list.
2. Press the TAB key to move the flashing underscore to the Match Case option. (Match Case means you want to locate occurrences of capital "A" only.)
3. Press SPACEBAR to select this option.
4. Press the TAB key to move the underscore to the Ok button.
5. Press SPACEBAR to choose Ok. This carries out the command.

The Find dialog box disappears. The first occurrence of the text is highlighted.



Now you want to find the next occurrence of "A". Choose the Find Next command to continue the search.

Choose the Find Next command

1. Hold down the ALT key and press SPACEBAR. Release the ALT key.
2. Press the RIGHT key three times to go to the Search Menu.
3. Press F twice to highlight the Find Next command.
4. Press ENTER. Windows highlights the next occurrence of the text.
5. Continue to use the Find Next command until you've found all occurrences of priority "A".

When there are no more occurrences of "A", Windows will indicate that it can't find the text.

Exercise 4: Expanding the MS-DOS Window

Now that you've located your important tasks, you can add notes to the list. One of the tasks listed is buying theater tickets. You have already decided that you want tickets for three $16.75 seats. Windows has a Calculator, so you can compute the total and note the cost on your list.

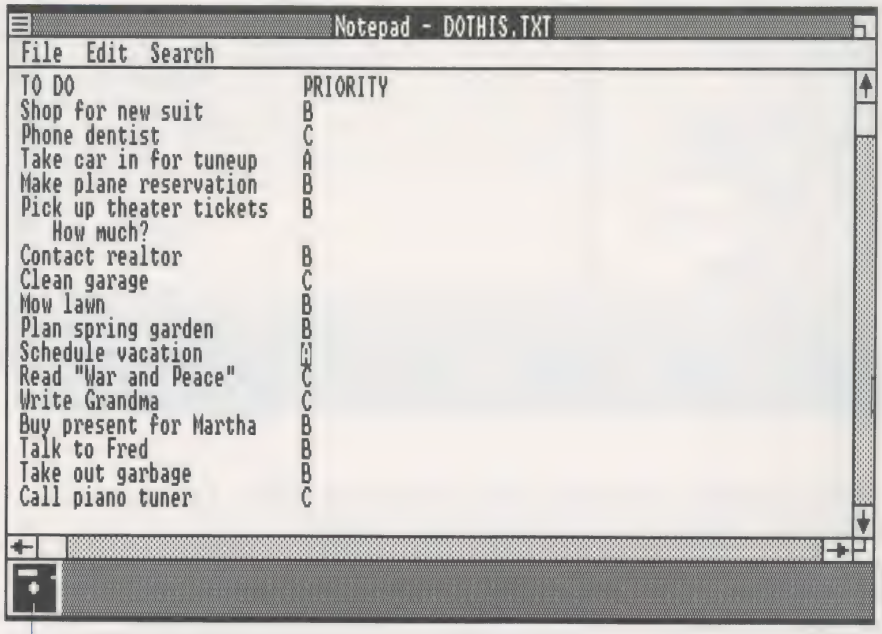
To run an application such as Calculator, you must start it from the MS-DOS Executive window. Since the MS-DOS Executive is currently an icon in the icon area, you must *expand* the icon into a window in order to run the application from it.

Moving to icons

To select the icon, use the ALT-TAB keys. ALT-TAB selects windows first, and then icons, from left to right.

Select the MS-DOS Executive icon

- Press ALT-TAB.

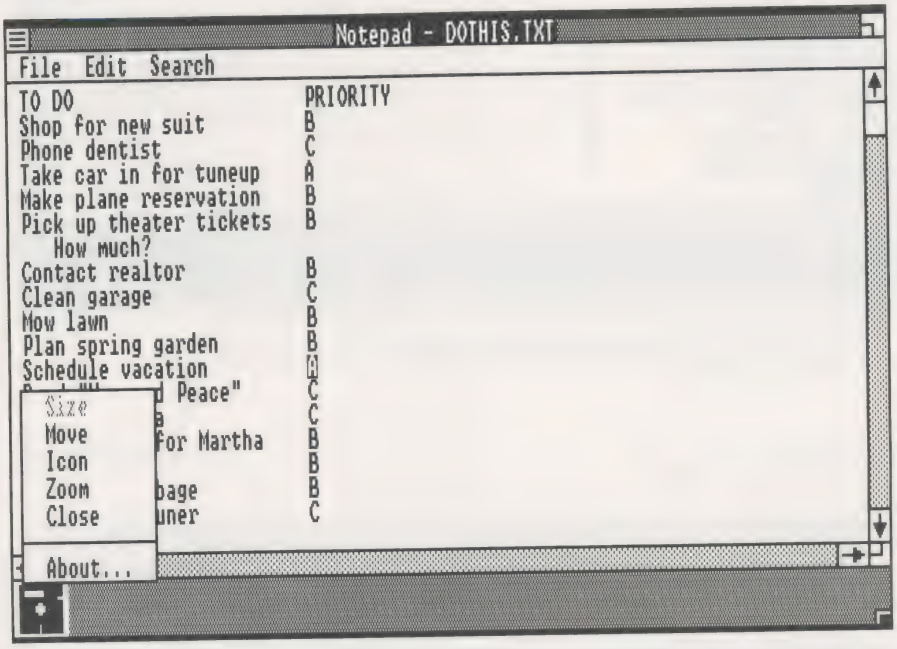


The icon is selected.

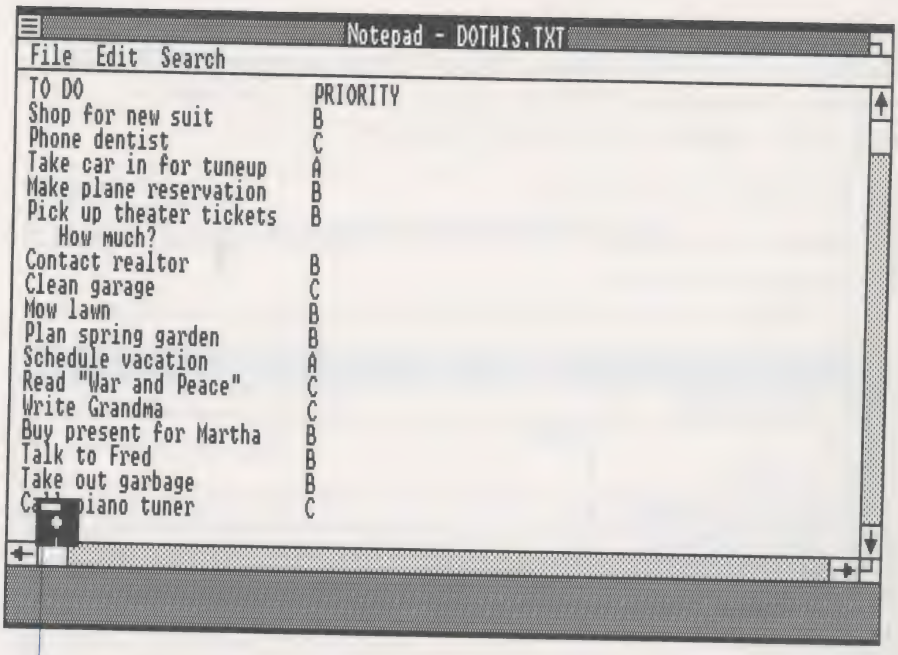
One Windows menu is common to every application displayed in a window: the *System Menu*. System Menu commands affect the windows themselves. You use a System Menu command—Move—to expand the MS-DOS Executive icon:

Choose the Move command

1. Hold down the ALT key.
2. Press the SPACEBAR. The System Menu appears.
3. Release the ALT key.



4. Press M to highlight the Move command.
5. Press ENTER to carry out the highlighted command.

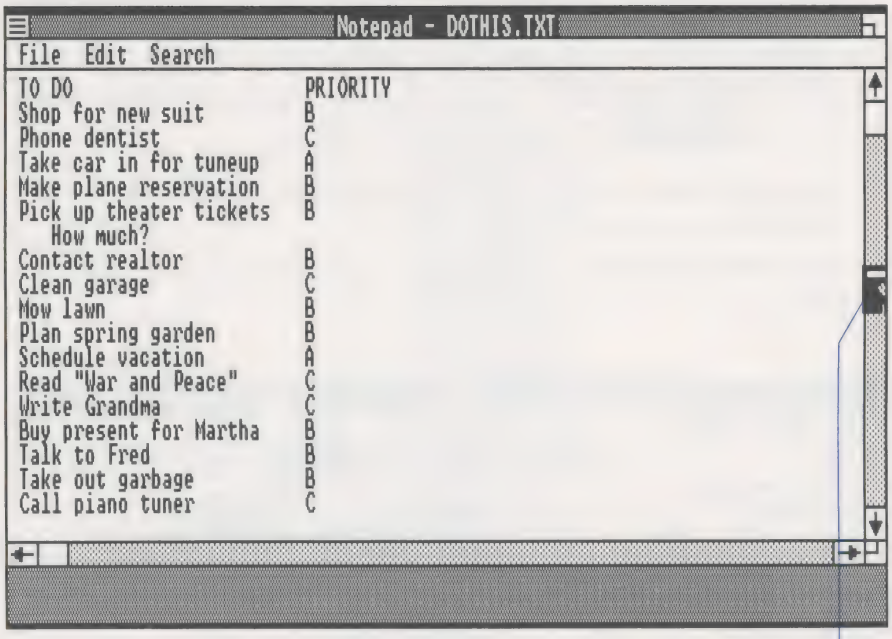


The MS-DOS Executive icon appears in the work area.

Expand the MS-DOS Executive icon

To expand the icon

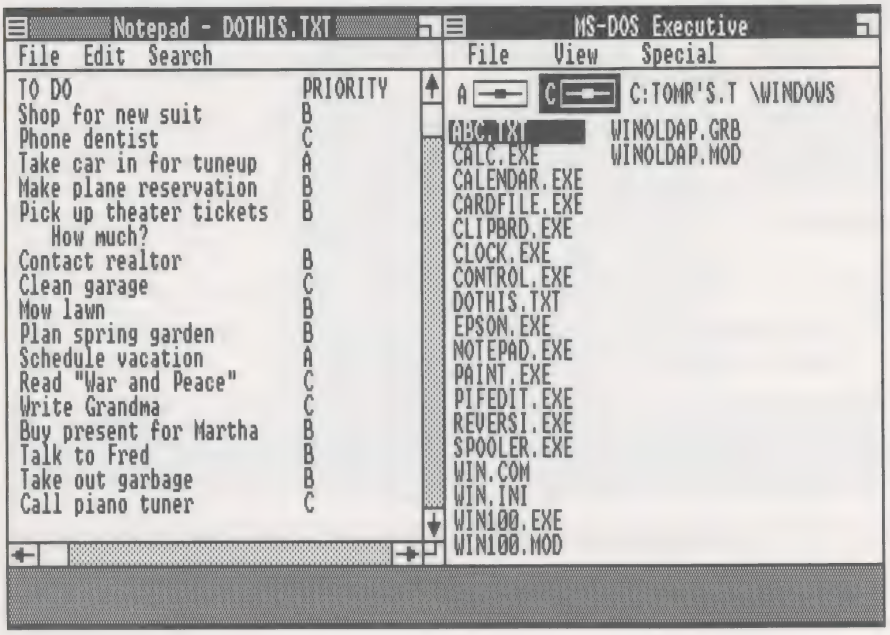
1. Press the UP key, then the RIGHT key until the MS-DOS Executive icon is on the right border of the Notepad window.



Position the MS-DOS Executive icon on the right border.

2 Press ENTER.

Windows expands the MS-DOS Executive icon into a window beside the Notepad window.

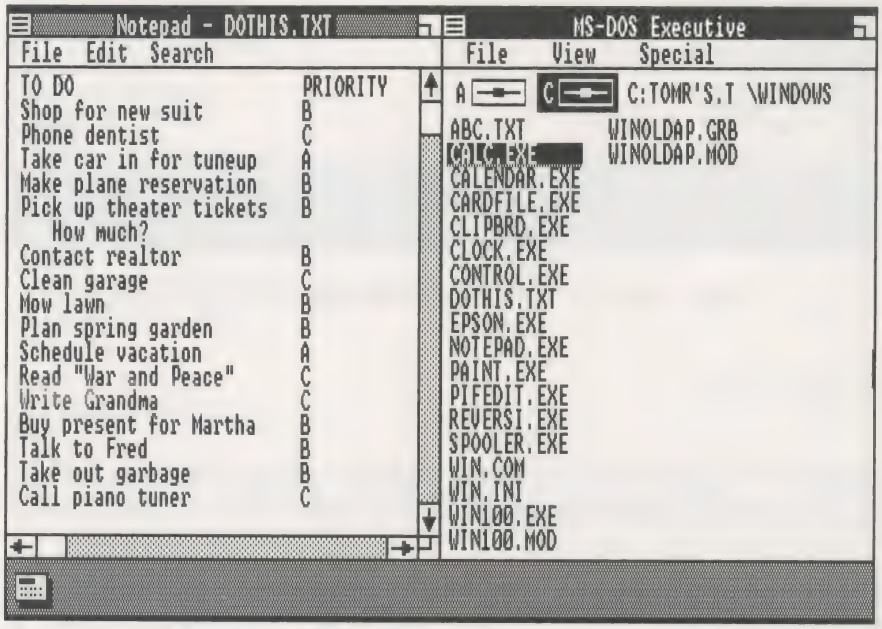


Now you are ready to run the Calculator application.

The last time you ran an application, the MS-DOS Executive became an icon. This time you can run the Calculator as an icon and keep the MS-DOS Executive on the screen.

Run the Calculator as an icon

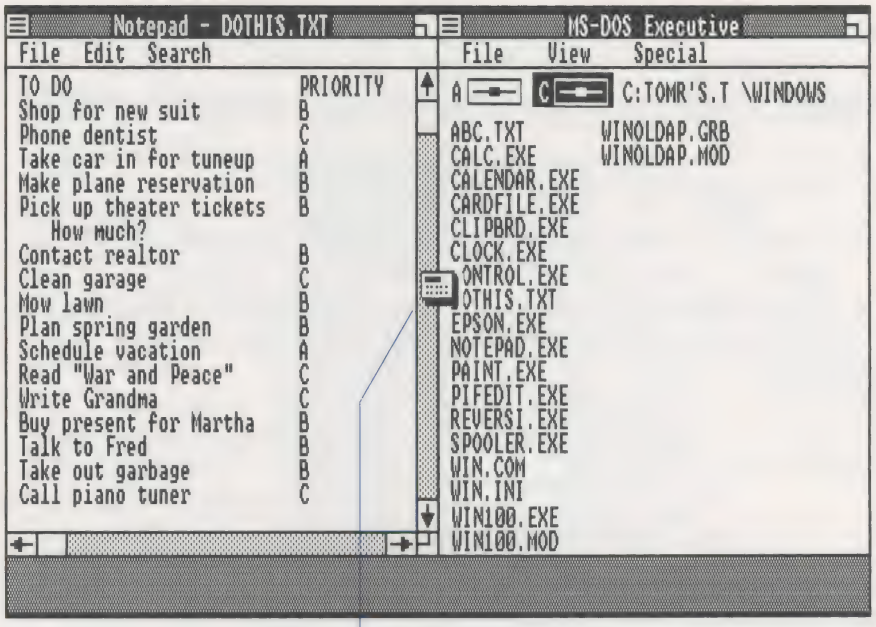
1. Press the DIRECTION keys until CALC.EXE is highlighted in the MS-DOS Executive window.
2. Hold down the SHIFT key and press the ENTER key. Release SHIFT.



The Calculator icon appears in the icon area. The Calculator is running in memory, but isn't taking up space in the work area. Now you can expand the Calculator icon and position your windows in a variety of ways on the screen.

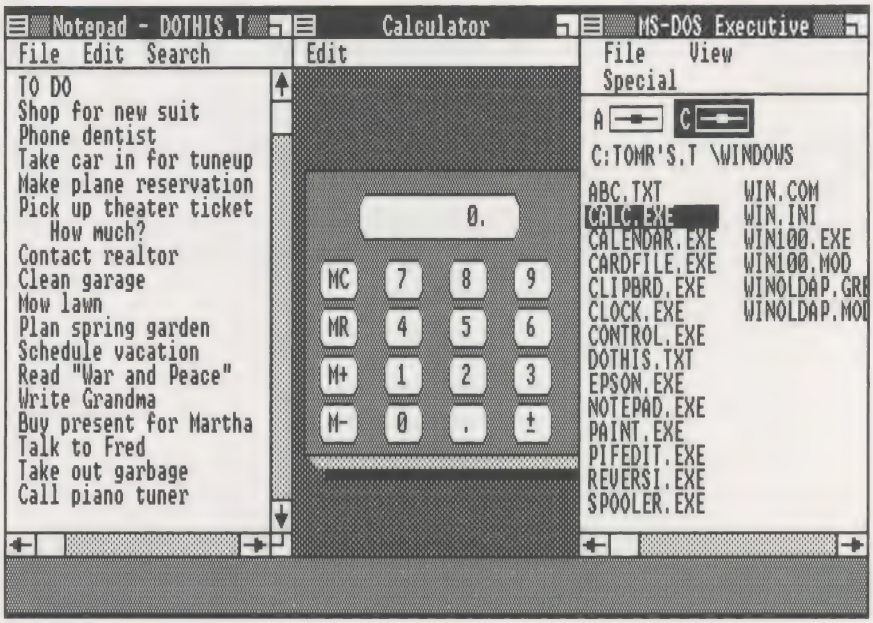
Expand the Calculator

1. Press ALT-TAB to select the Calculator icon.
2. Hold down the ALT key and press SPACEBAR to display the System Menu.
3. Release the ALT key.
4. Press M to highlight the Move command.
5. Press ENTER to carry out the command.
6. Press the UP key, then the RIGHT key until the Calculator icon is on the border between the Notepad and MS-DOS Executive windows.



Position the Calculator icon on the border.

7 Press ENTER.



The windows to the left and right are adjusted to make room.

Automatic tiling

Windows arranges the windows on your screen so that you can see everything you are working with. This process is called *automatic tiling.*

- If you place the icon on a horizontal border, the new window opens below the border.
- If you place the icon on a vertical border, the new window opens on that border.
- If you place the icon within a window, it replaces that window (and the window becomes an icon in the icon area).

Chapter 4, "Techniques," has more information on positioning windows on the screen.

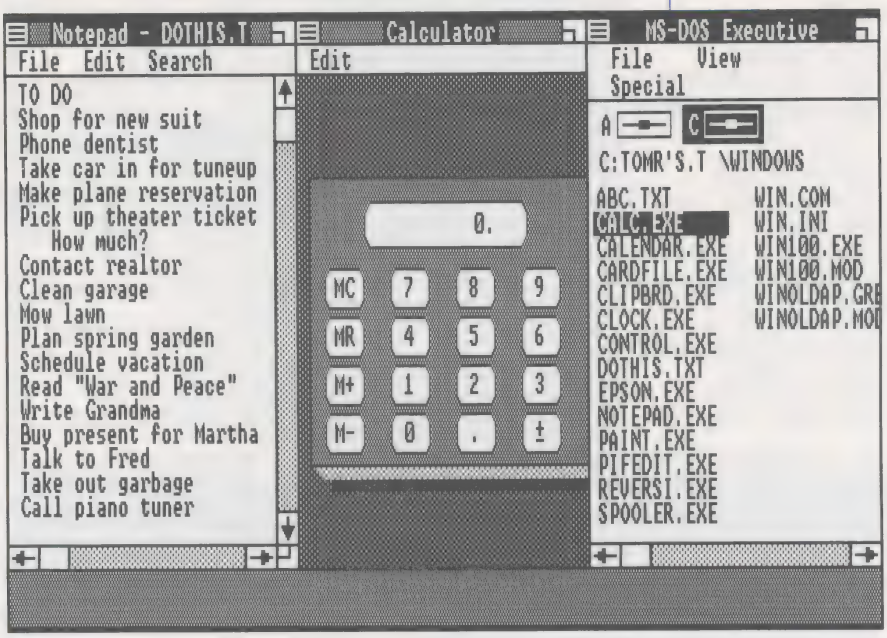
Exercise 5: Moving Windows on the Screen

You can rearrange your windows on the screen in many ways. For example, you can move the MS-DOS Executive window below the Notepad window to make the Notepad and Calculator windows wider and easier to use.

Select the MS-DOS Executive window

▣ Press ALT-TAB to select the MS-DOS Executive window.

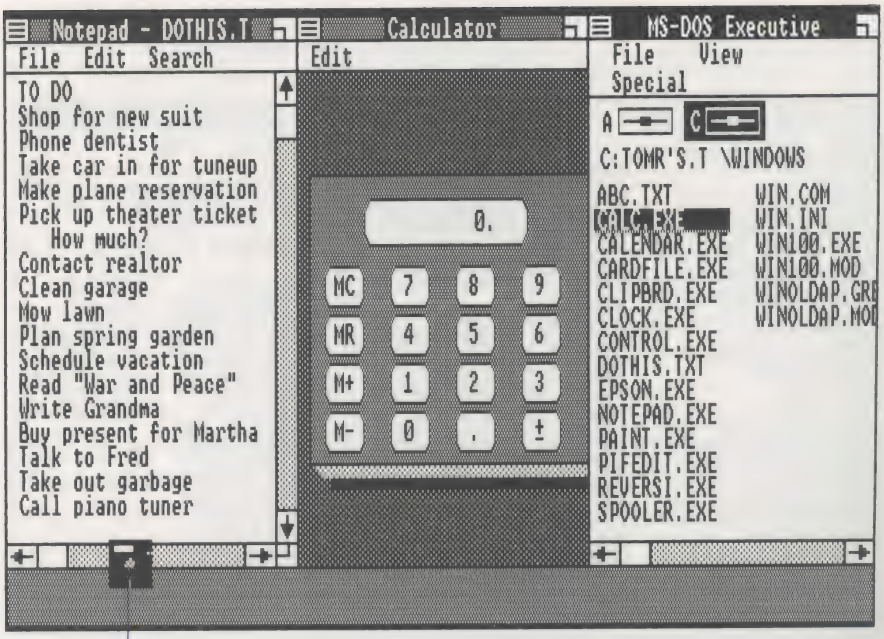
The dark title bar shows the window is selected. The next command you choose will affect this window.



Once the window is selected, it can be moved:

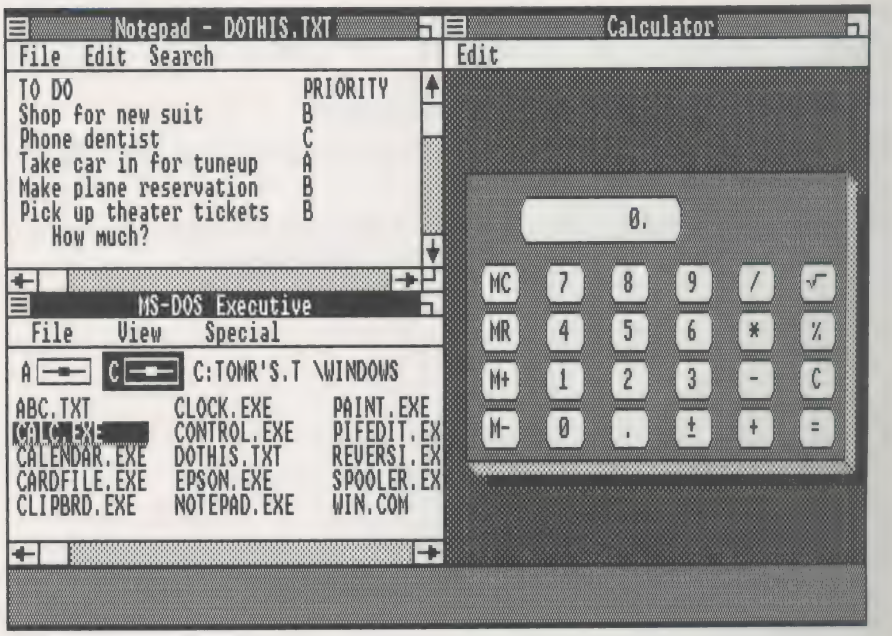
Move the MS-DOS Executive

1. Hold down ALT and press SPACEBAR to display the System Menu.
2. Release the ALT key.
3. Press M to highlight the Move command.
4. Press ENTER. The MS-DOS Executive icon appears in the middle of the window.
5. Press the LEFT and DOWN keys until the MS-DOS Executive icon rests on the lower border of the Notepad window.



Position the MS-DOS Executive icon on the lower border.

6 Press ENTER to complete the move.



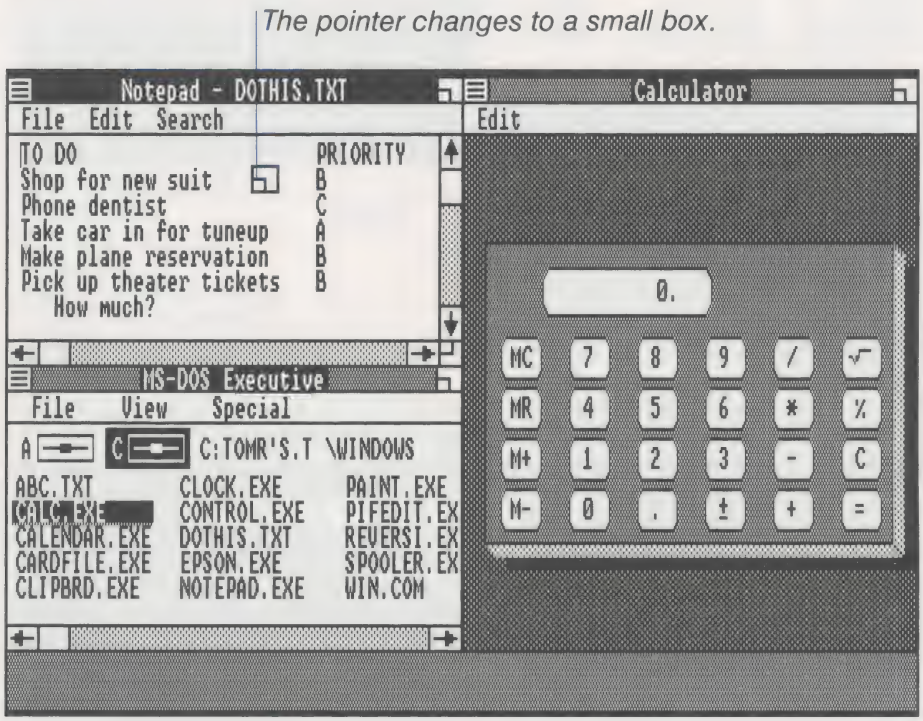
See Chapter 4, "Techniques," for more information on moving and positioning windows.

Exercise 6: Changing the Size of a Window

You can make the Notepad window a little wider so you can easily see the text in the list. You change the size of a window with the Size command from the System Menu.

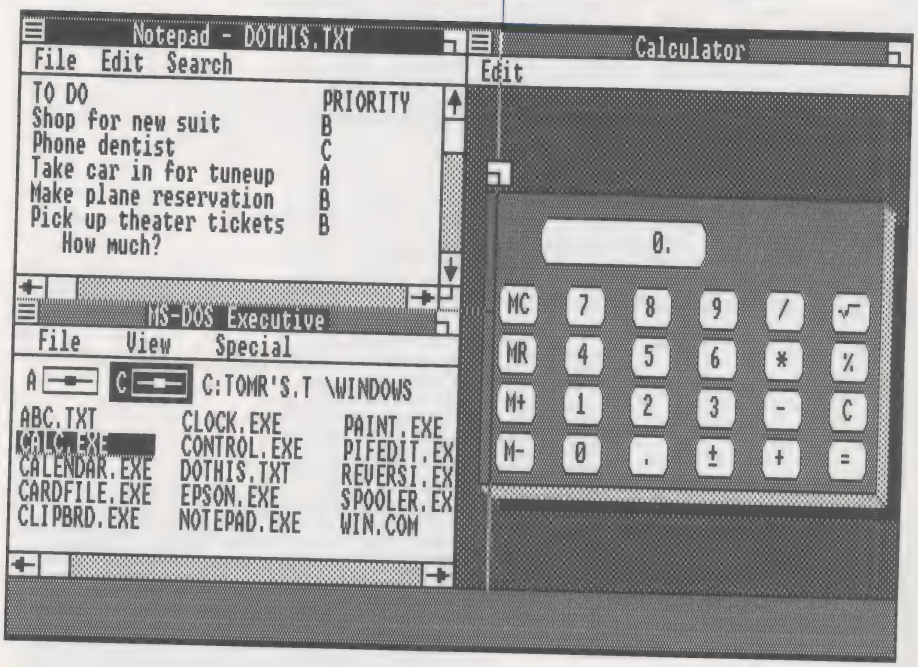
Enlarge the Notepad window

1. Press ALT-TAB twice to select the Notepad window. The Notepad title bar will become dark.
2. Hold down ALT and press SPACEBAR to display the System Menu.
3. Release the ALT key.
4. Press S to highlight the Size command.
5. Press ENTER.



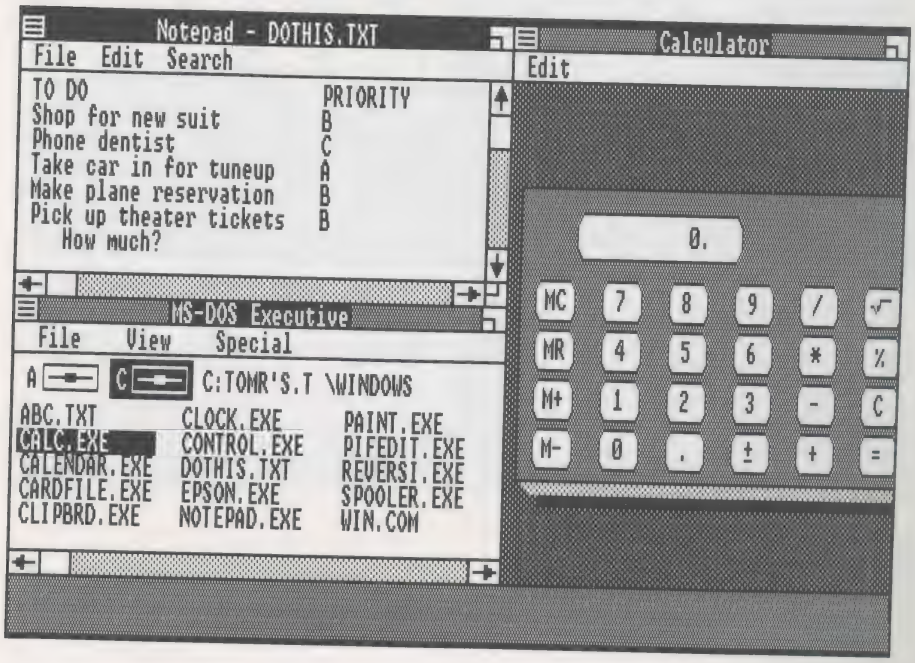
6. Press the RIGHT key to move the size pointer to the window border. Keep pressing the RIGHT key to move beyond the border to the size you want.

The line shows where the new window border will be.



7 Press ENTER.

Windows widens the Notepad window and adjusts the size of any adjacent windows.



Whenever you use the Size command, vertical and horizontal lines indicate the new size of the window.

Exercise 7: Using the Calculator

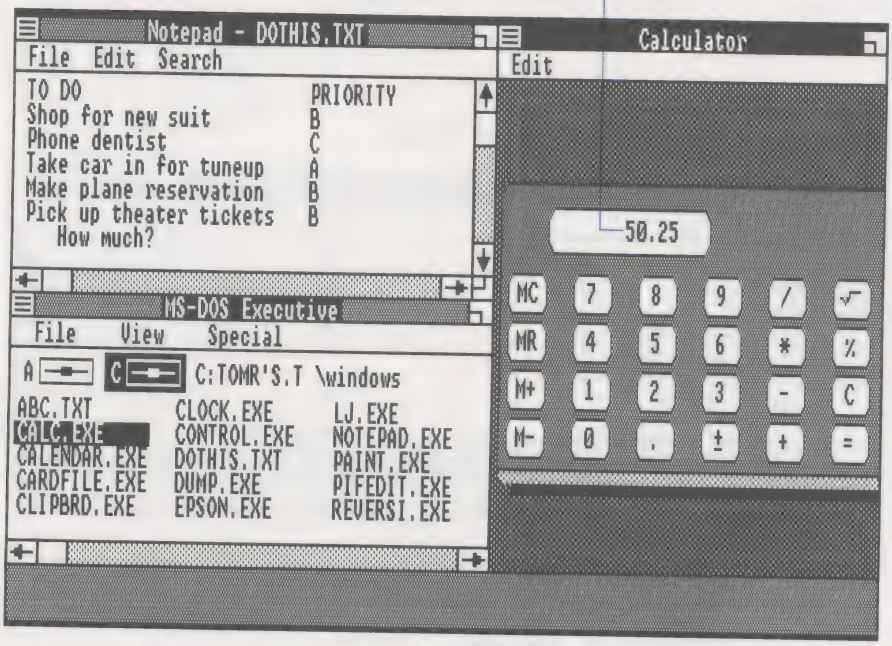
Now use the Calculator to calculate the cost of the three $16.75 theater tickets.

Make your calculations

1. Press ALT-TAB twice to select the Calculator window.
2. Type the numbers from the top row of the keyboard: *16.75*3=*

Windows performs the calculations automatically.

The amount appears in the Calculator display.



To type the figures into Notepad

Type the figures into Notepad

1. Press ALT-TAB to select the Notepad window.
2. Press the DIRECTION keys to move to the line that says "How much?"

3 Press the DIRECTION key to move the insertion point to the right of the question mark.

4 Type a space, then type *$50.25*

Exercise 8: Shrinking a Window

You are finished with the Calculator for now. You can free space on the screen by shrinking the window into an icon — this means the Calculator is still running in memory if you want to use it again.

You shrink a window with the Icon command from the System Menu:

Shrink the Calculator window into an icon

1 Press ALT-TAB twice to select the Calculator window.

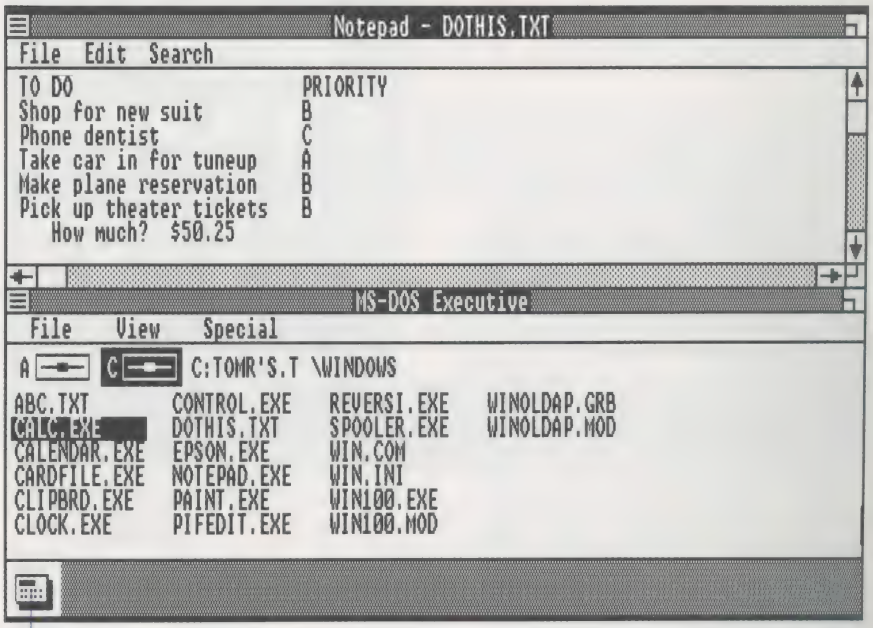
2 Hold down ALT and press SPACEBAR to display the System Menu.

3 Release the ALT key.

4 Press I to highlight the Icon command.

5 Press ENTER.

The other windows adjust to fill the screen.



The Calculator icon appears in the icon area.

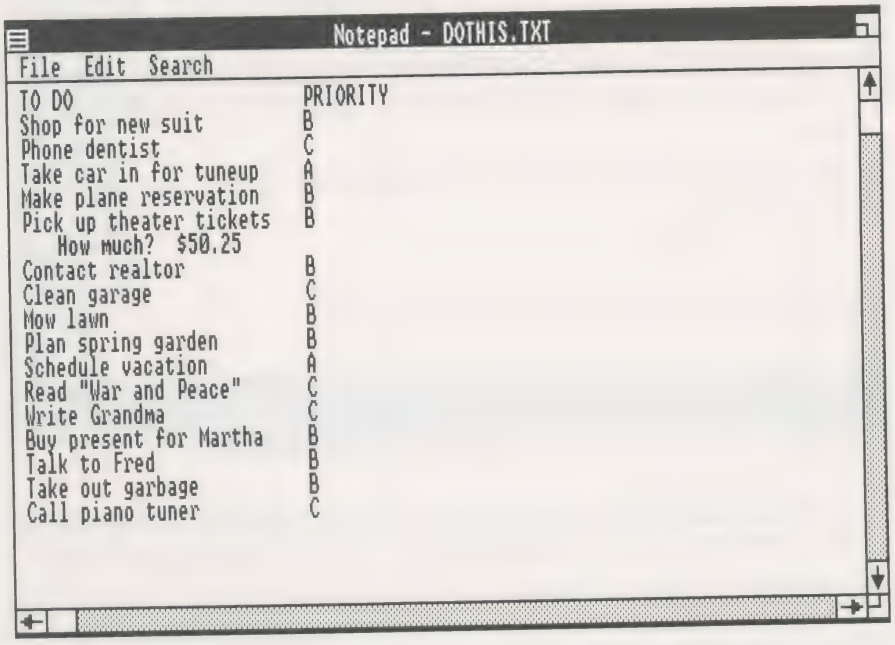
Exercise 9: Zooming a Window

The screen is now divided between the Notepad and MS-DOS Executive windows. Perhaps you would like to see the full Notepad window to review your entire "To Do" list. You can do this with the Zoom command from the System Menu.

Zoom the Notepad window

1. Press ALT-TAB to select the Notepad window.
2. Hold down ALT and press SPACEBAR to display the System Menu. Release the ALT key.
3. Press Z to highlight the Zoom command.
4. Press ENTER.

The zoomed window takes up the entire screen.



Although the Notepad window takes up the entire screen, the MS-DOS window is still intact. To dezoom the Notepad window

Dezoom the Notepad window

1. Press ALT-SPACEBAR. Release the ALT key.
2. Press Z.
3. Press ENTER.

The screen looks as it did before.

Exercise 10: Saving a Document

It is a good idea to save your work frequently when you work with any program. The File Menu has two commands for saving documents: Save and Save As. The Save command saves an existing document on the disk, overwriting the previous version. The Save As command saves a new document, or a new version of a document.

For this exercise, use the Save As command from the Notepad File Menu. The revised "To Do" list will be saved under a new name, while the original will remain intact.

Choose the Save As command

1. Hold down the ALT key and press SPACEBAR. Release the ALT key.
2. Press the RIGHT key to see the File Menu.
3. Press S twice to highlight the Save As command.
4. Press ENTER. The Save As dialog box appears.
5. The current filename (DOTHIS.TXT) appears in the text box. To replace it, type a new filename (*MYLIST.TXT*) in the text box.
6. Press the TAB key to move the underscore to the Save button.
7. Press SPACEBAR.

Windows saves the file under the new name.

Exercise 11: Closing an Application

To close an application and remove it from memory, use the Close command from the application's System Menu.

For example, to close Notepad

Close Notepad

1. Hold down the ALT key and press SPACEBAR to display Notepad's System Menu. Release the ALT key.
2. Press C to highlight the Close command and press the ENTER key.

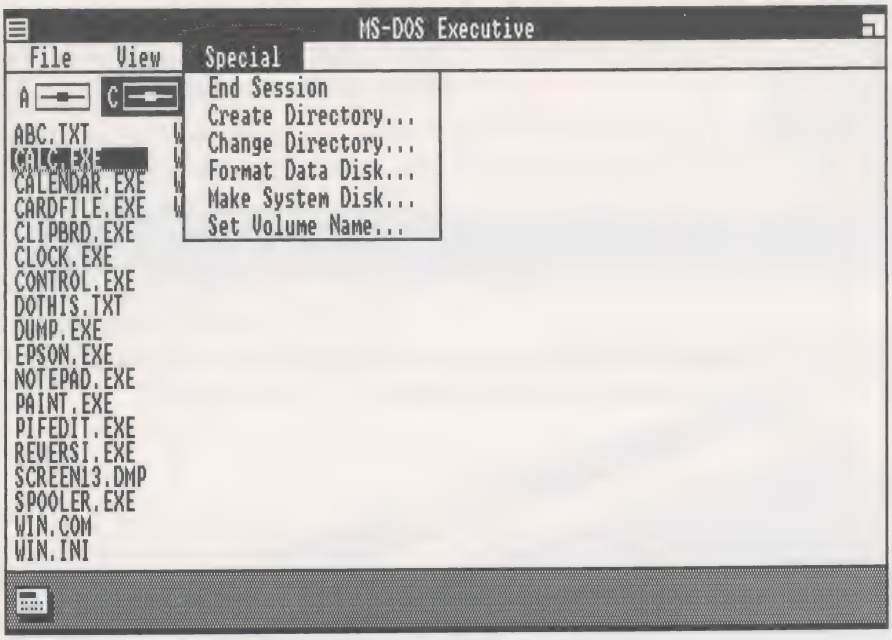
The Notepad window disappears and Notepad is removed from memory. (Note that the icon is not in the icon area.) To use Notepad again, you must run it from the MS-DOS Executive window.

Exercise 12: Ending a Windows Session

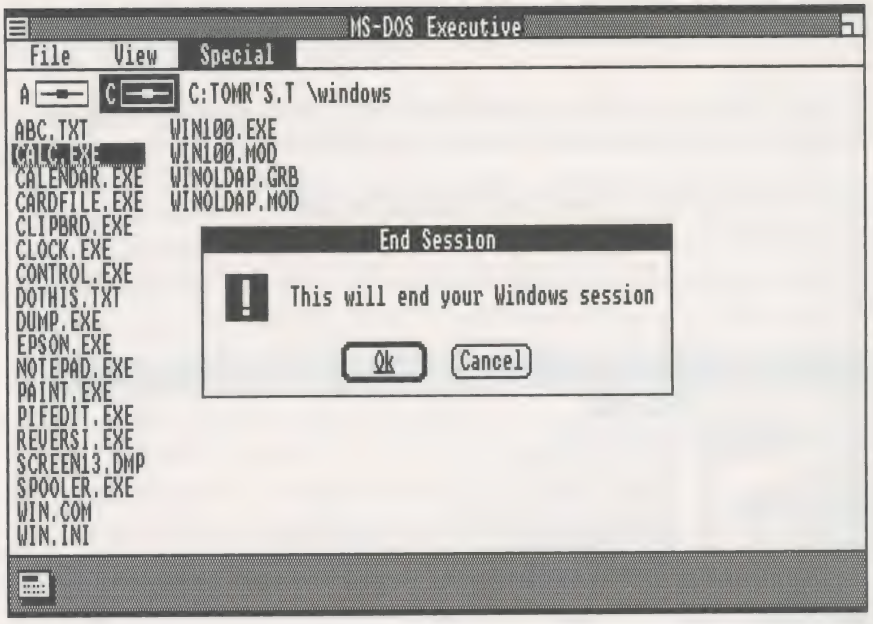
To quit Windows, select the MS-DOS Executive window and use the End Session command from the Special Menu.

End your Windows session

1. Hold down the ALT key and press SPACEBAR.
2. Release the ALT key.
3. Press the RIGHT key three times to move to the Special Menu.



4. Press E to highlight the End Session command and press the ENTER key.
5. You see a dialog box asking if you want to end the session. Ok is already selected, so press SPACEBAR to carry out the command.



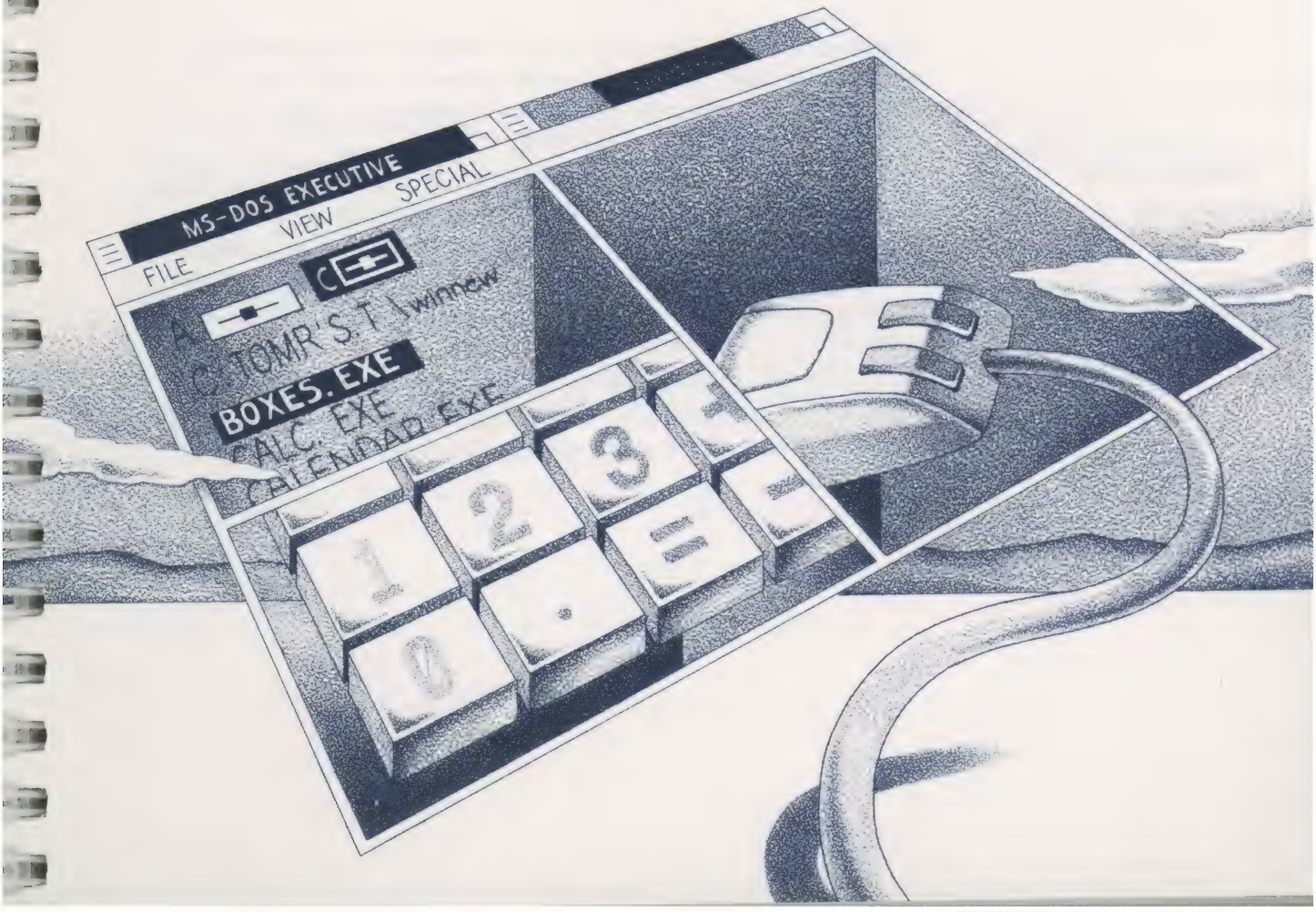
You have learned most of the basic techniques for using Microsoft Windows. For a review, refer to Chapter 4, "Techniques."

3 Learning Windows With the Mouse

These exercises will give you hands-on experience using Microsoft Windows with a mouse. Using a mouse with Windows makes many tasks faster and easier to learn.

If you are a new user, you will find this chapter especially helpful. The step-by-step instructions and the illustrations will tell you exactly what to do.

If you have a mouse installed you can still use the keyboard techniques. See Chapter 2, "Learning Windows," for more information on working from the keyboard.



In this chapter, you will learn how to

- Use the mouse
- Run an application
- Choose commands from menus
- Choose options from dialog boxes
- Expand an icon into a window on the screen
- Move windows on the screen
- Change the size of windows
- Use the Calculator
- Shrink a window into an icon
- Zoom a window
- Save a document
- Close an application
- End a Microsoft Windows session

About the Mouse

A *mouse* is a small pointing device designed to fit comfortably under your hand. You will use the mouse to move icons, expand and shrink windows, and to choose commands. Using the mouse is as easy as pointing and clicking.

Which button to press?

Microsoft Windows can be used with either a single- or multiple-button mouse. If you have a mouse with more than one button, use the *left-most* button. The applications you use may respond to the other buttons, but Windows uses only the left-most button.

Moving the mouse

Moving the mouse across a flat surface moves the *pointer,* which is the arrow on the screen.

If you run out of room for the mouse — by going off the edge of the table, for instance — lift the mouse and put it back down where you have more room. Lifting the mouse does not move the pointer.

The following definitions will help you begin to use your mouse:

Mouse techniques

To *point*	Move the mouse until the tip of the pointer rests on what you want to point to.
To *press*	Hold down the mouse button.
To *click*	Quickly press and release the mouse button.
To *drag*	Hold down the mouse button while moving the mouse.
To *double click*	Click the mouse button twice in rapid succession.

Exercise 1: Running Applications

The Desktop Applications disk contains application programs you can use to practice with Windows. In the following exercises, you will use Notepad, a text editing application, to edit a list of daily tasks.

▣ Start Windows.

If you have a two-drive system

If you have a two-drive system, look at the directory for the Desktop Applications disk.

1. Put the Windows Desktop Applications disk in drive A.
2. Point to the drive icon for drive A.
3. Click the mouse button.

The drive icon is dark (showing that it is selected). The directory of the Desktop Applications disk appears in the MS-DOS Executive window.

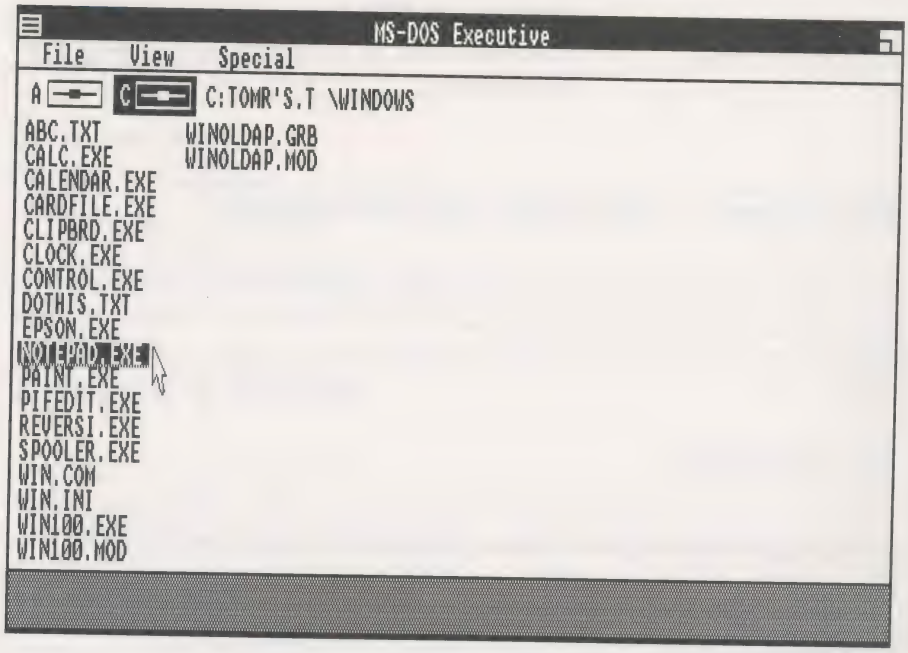
If you have a hard disk

If you have a hard disk system, the files you need for these exercises are on your hard disk and should appear in your MS-DOS Executive window.

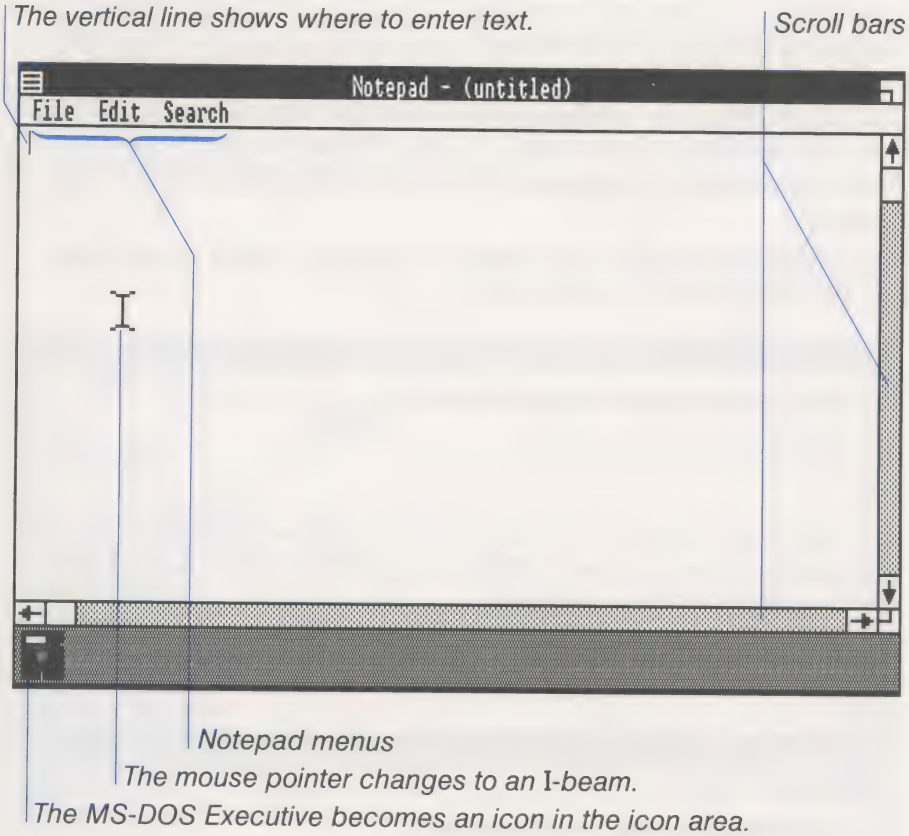
To use an application, you must first run it from the MS-DOS Executive window. Since you just started Windows, the MS-DOS Executive is on your screen now.

Run Notepad

1 Point to the filename NOTEPAD.EXE.



2 Double click the mouse button to run the program.


The vertical line shows where to enter text.
Scroll bars
Notepad - (untitled)
File Edit Search
Notepad menus
The mouse pointer changes to an I-beam.
The MS-DOS Executive becomes an icon in the icon area.

If Windows doesn't run Notepad immediately, try double clicking faster. You can't hurt the mouse or Windows by experimenting.

Where's the arrow?

In the Notepad window, a vertical line, called the insertion point, indicates where the text you type will appear. The pointer becomes an I-Beam. To move the insertion point, move the I-Beam to the desired location and click the mouse button.

Exercise 2: Choosing Commands

Windows commands are compactly organized in *menus* on the menu bar. Each application has its own menus.

Look at the File Menu

Look at the Notepad menus

1 Point to the File Menu and press the mouse button.
2 Release the mouse button.

You can use the same technique to look at the Edit and Search Menus.

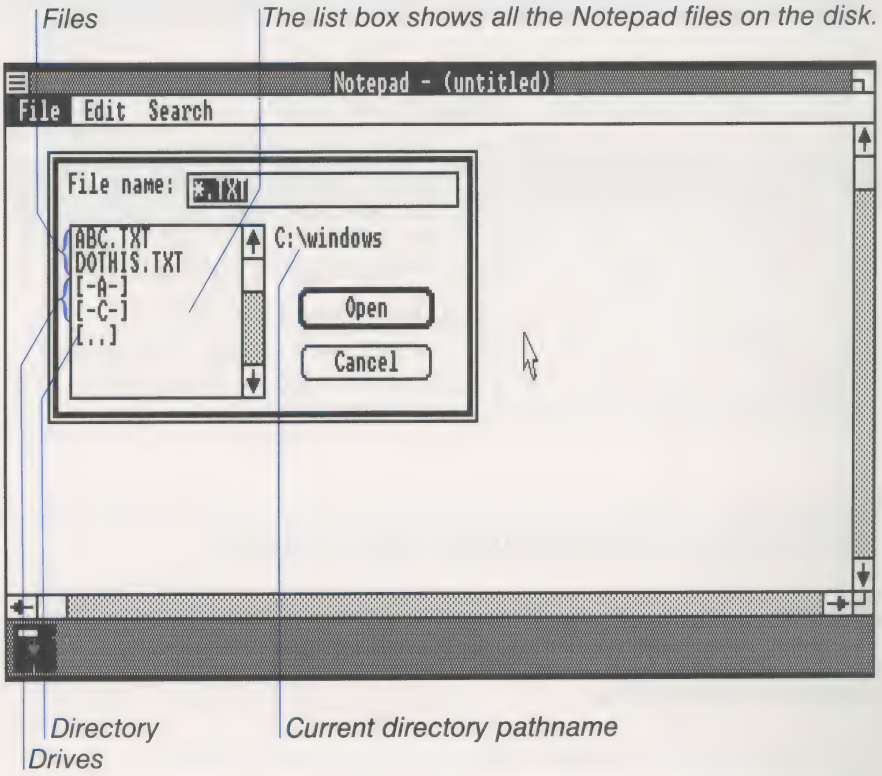
To choose a command, press on the menu name and drag the highlight down to the command you want. As long as you hold down the mouse button, you can move the highlight up and down the menu. When you release the mouse button, Windows carries out the highlighted command. If you release the mouse button before choosing a command, the menu disappears and nothing happens.

For example, to choose the Open command, which opens files on the screen

Choose the Open command

1. Point to the File Menu and press the mouse button.
2. Drag down to the Open command.
3. Release the mouse button.

A dialog box appears. This means that Windows needs additional information from you — in this case, a filename to load — before it can carry out the command.



To select a filename from the dialog box

- Point to the filename DOTHIS.TXT and click the mouse button.

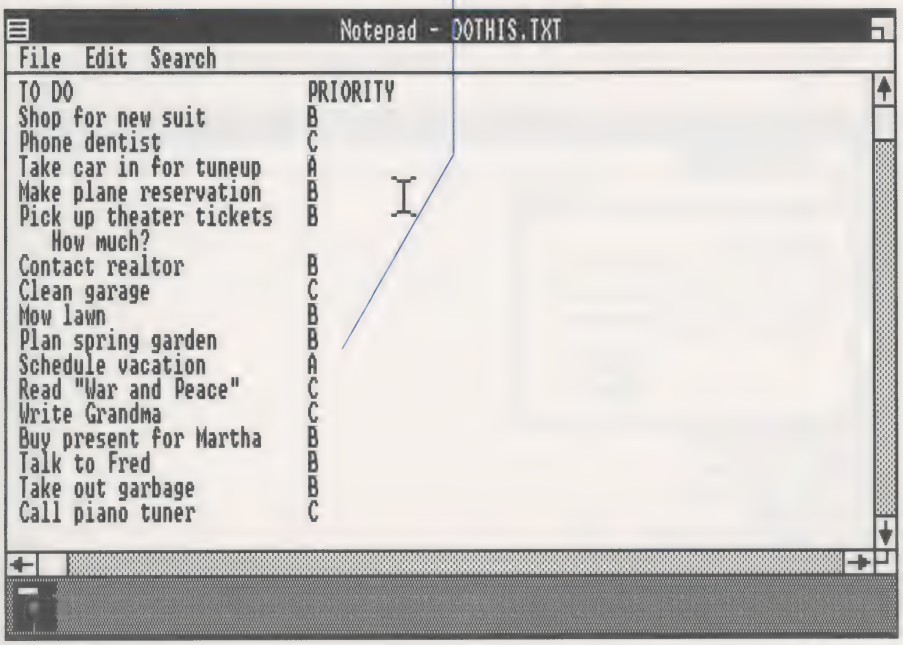
Select a file from the dialog box

Now choose the Open button to carry out the command:

- Point to the Open button and click.

Choose the Open button

The sample list appears in the Notepad window.



Exercise 3: Choosing Options

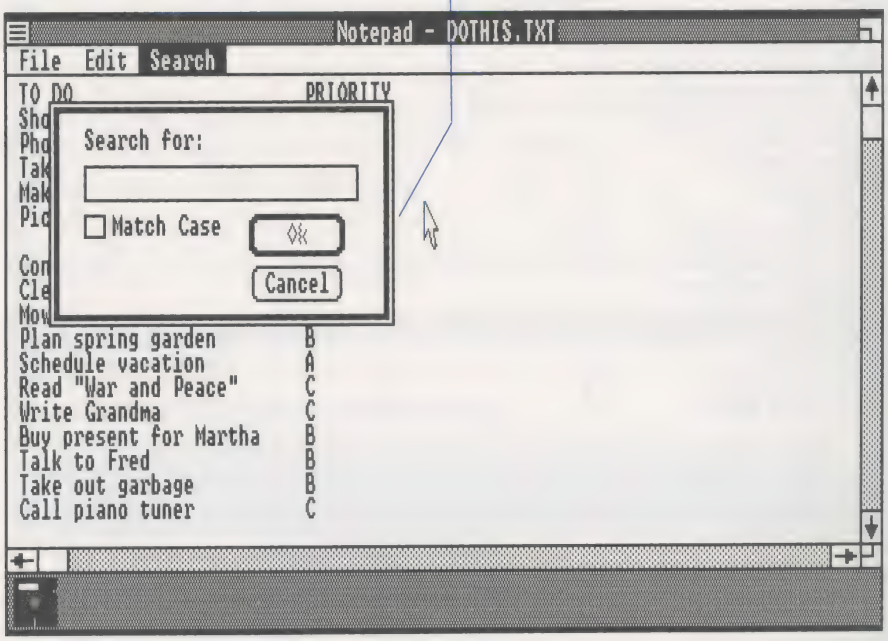
The Notepad document on your screen is a "To Do" list of tasks. These tasks are prioritized by letter, with the letter "A" designating the most important.

First, use the Find Command to find those important tasks:

Choose the Find command

1. Point to the Search Menu and press the mouse button.
2. Drag the highlight down to the Find command.
3. Release the mouse button.

The Find dialog box appears when you choose Find.

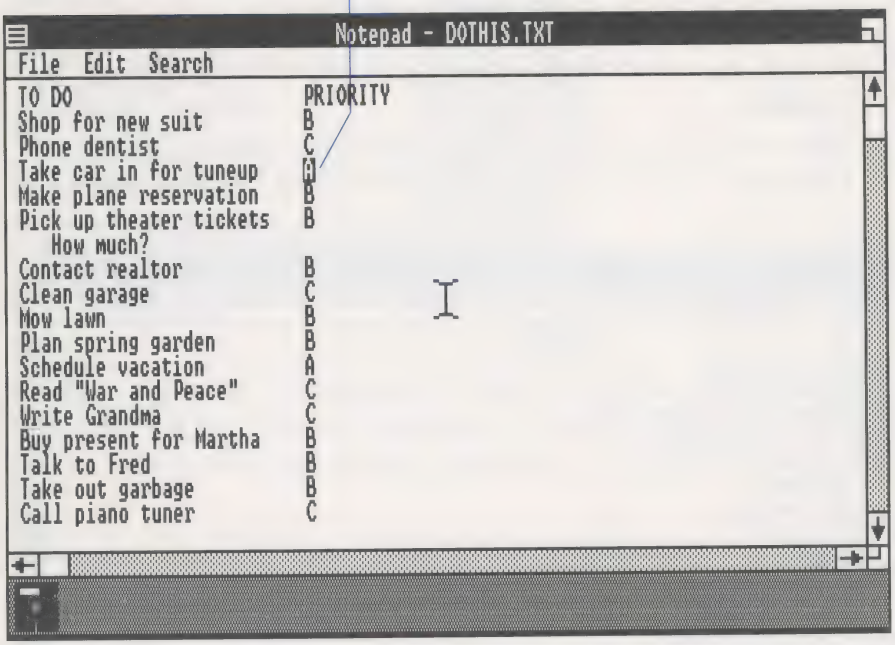


To specify text

Specify the text you want to find

1. Type the text you want to find in the text box at the top of the dialog box. In this case, type *A* to search for all the occurrences of "A" in the list.
2. Point to the Match Case option and click. (Match Case means you want to locate occurrences of capital "A" only.)
3. Click the Ok button. This carries out the command.

The Find dialog box disappears. The first occurrence of the text is highlighted.



Now you want to find the next occurrence of "A". Use the Find Next command to continue the search.

Choose the Find Next command

1. Point to the Search Menu and press the mouse button.
2. Drag the highlight to the Find Next command and release the mouse button.
3. Windows highlights the next occurrence of the text.
4. Continue to use the Find Next command until all occurrences of "A" have been found.

When there are no more occurrences of "A", Windows will indicate that it can't find the text.

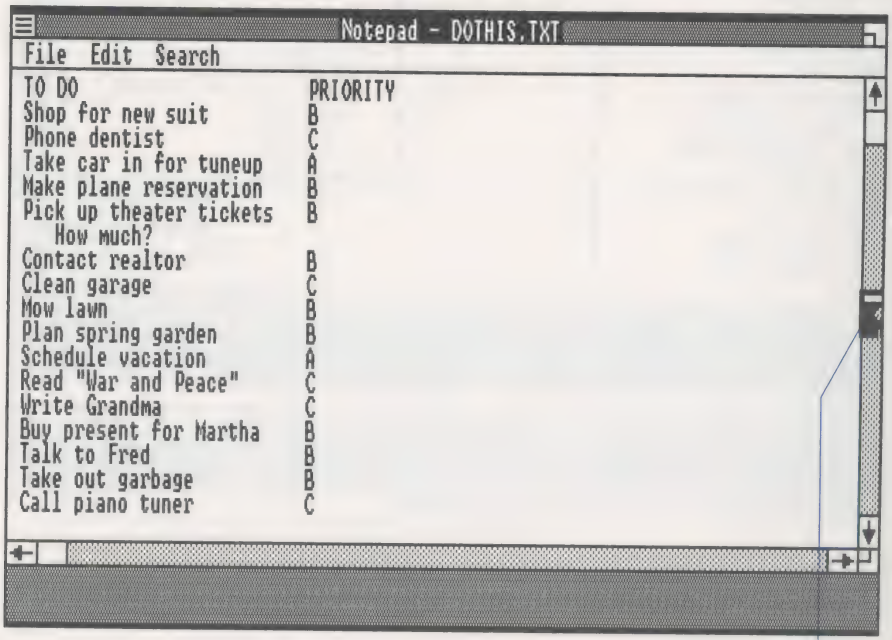
Exercise 4: Expanding the MS-DOS Window

Now that you've located your important tasks, you can add notes to the list. One of the tasks listed is buying theater tickets. You have already decided that you want tickets for three $16.75 seats. Windows has a Calculator, so you can compute the total and note the cost on your list.

To run an application such as Calculator, you must start it from the MS-DOS Executive window. Since the MS-DOS Executive is currently an icon in the icon area, you must *expand* the icon into a window in order to run the application from it.

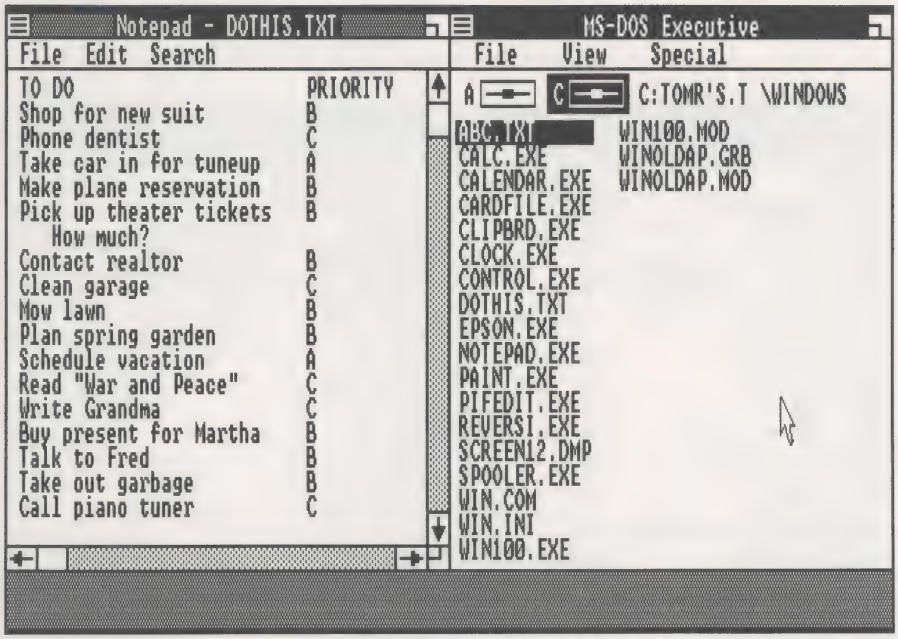
Expand the MS-DOS Executive icon

1. Point to the MS-DOS Executive icon. The pointer changes to a square.
2. Press the mouse button and drag the icon until the MS-DOS Executive icon is on the right border of the Notepad window.



Position the MS-DOS Executive icon on the right border.

3 Release the mouse button.



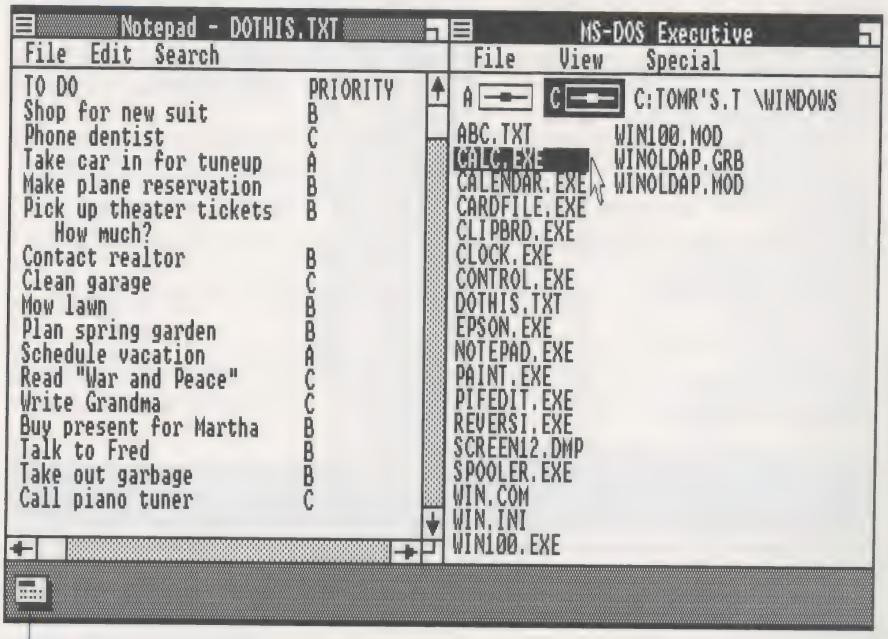
Note As long as you continue to hold down the mouse button, you can drag the icon on the screen. When you release the mouse button, the icon expands into a window.

Now you are ready to run the Calculator application.

The last time you ran an application, the MS-DOS Executive became an icon. This time you can run the Calculator as an icon and keep the MS-DOS Executive window on the screen.

Run the Calculator

1. Hold down the SHIFT key.
2. In the MS-DOS Executive window, double click the filename CALC.EXE.

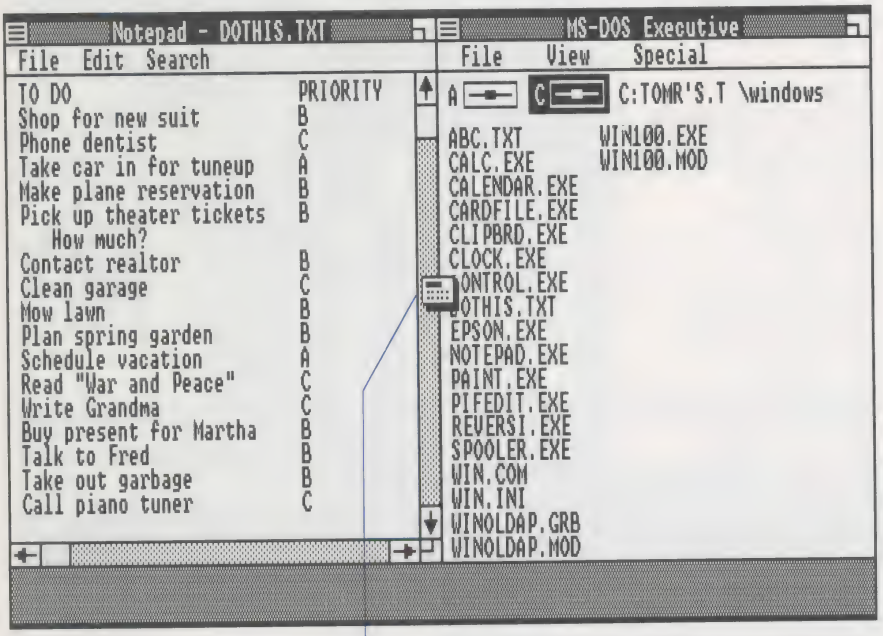


The Calculator icon appears in the icon area.

The Calculator icon appears in the icon area. The Calculator is running in memory, but isn't taking up space in the work area. Now you can expand the Calculator icon and position your windows in a variety of ways on the screen.

Expand the Calculator

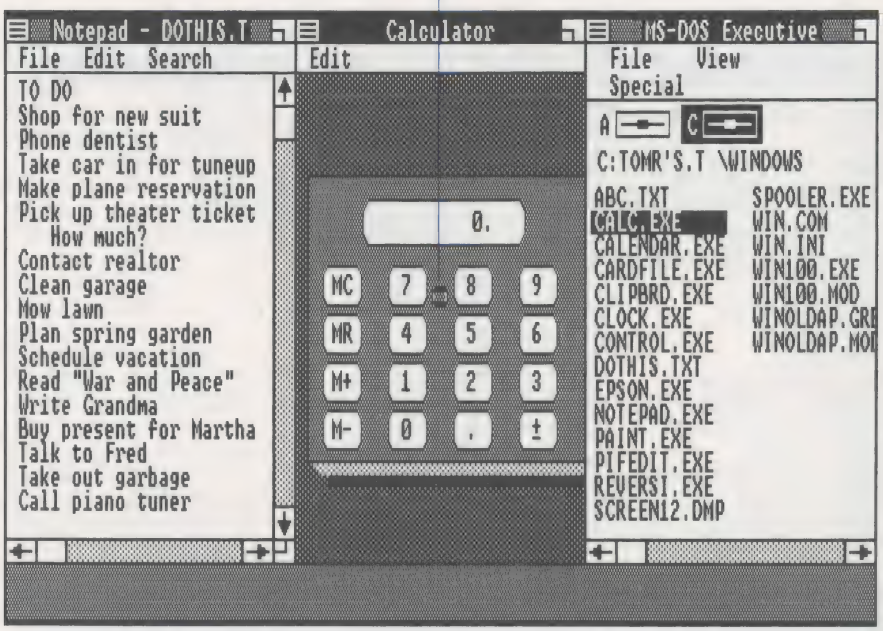
1. Point to the Calculator icon in the icon area.
2. Press the mouse button.
3. Drag the Calculator icon onto the border between the Notepad and MS-DOS Executive windows.



Position the Calculator icon on the border.

4 Release the mouse button.

Note that the mouse pointer changed shape.



The Calculator window expands in the work area. The windows to the left and right are adjusted.

Automatic tiling

Windows arranges the windows on your screen so that you can see everything you are working with. This process is called *automatic tiling*.

- If you place the icon on a horizontal border, the new window opens below the border.
- If you place the icon on a vertical border, the new window opens on that border.
- If you place the icon within a window, it replaces that window (and the window becomes an icon in the icon area).

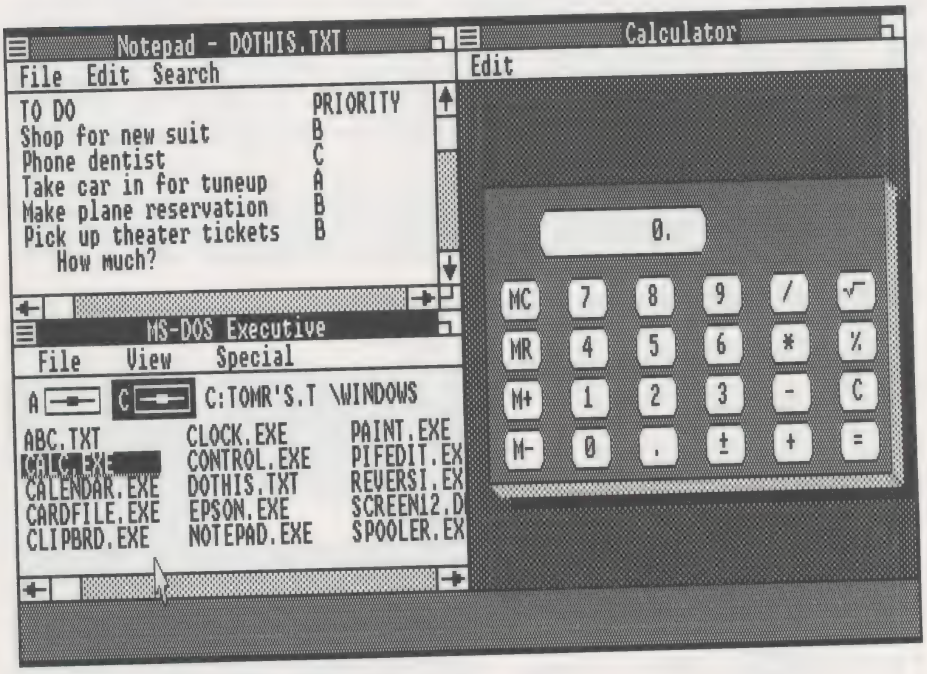
Chapter 4, "Techniques," has more information on positioning windows on the screen.

Exercise 5: Moving Windows on the Screen

You can rearrange your windows on the screen in many ways. For example, you can move the MS-DOS Executive window below the Notepad window to make the Notepad and Calculator windows wider and easier to use. To do this, you move an expanded window by its title bar.

Move the MS-DOS Executive

1. Point to the middle of the MS-DOS Executive title bar.
2. Press the mouse button. The pointer changes to the MS-DOS Executive icon.
3. Drag the MS-DOS Executive icon down and to the left until the icon is on the lower border of the Notepad window.
4. Release the mouse button.



See Chapter 4, "Techniques," for more information on moving and positioning windows.

Exercise 6: Changing the Size of a Window

You can make the Notepad window a little wider so you can easily see the text in the list. You change the size of a window with the Size command from the System Menu.

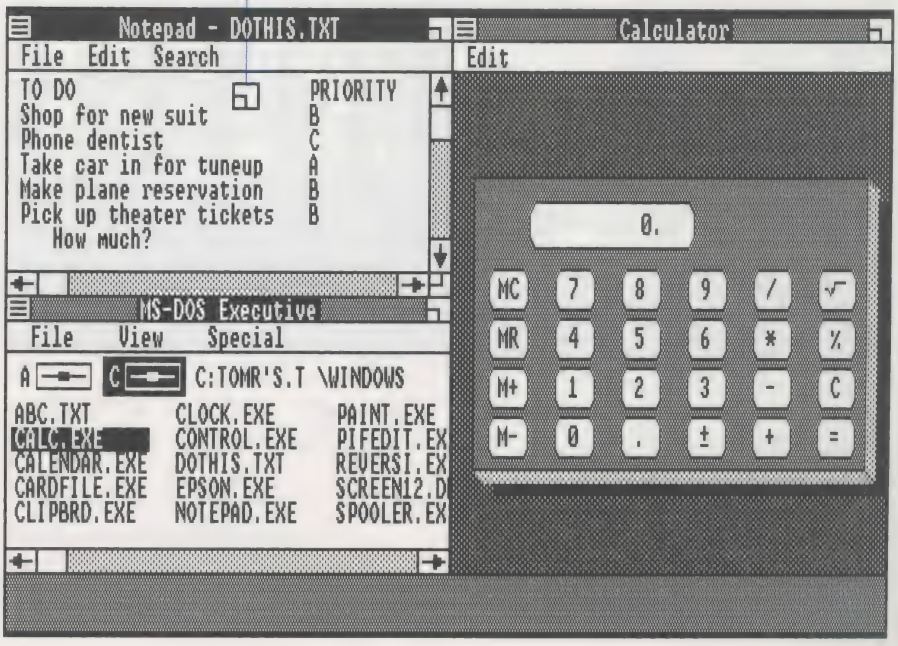
The Windows *System Menu* is common to every application that appears in a window. System Menu commands affect the windows themselves. To display the System Menu, point to the System Menu box at the left side of the title bar and press the mouse button.

To enlarge the Notepad window

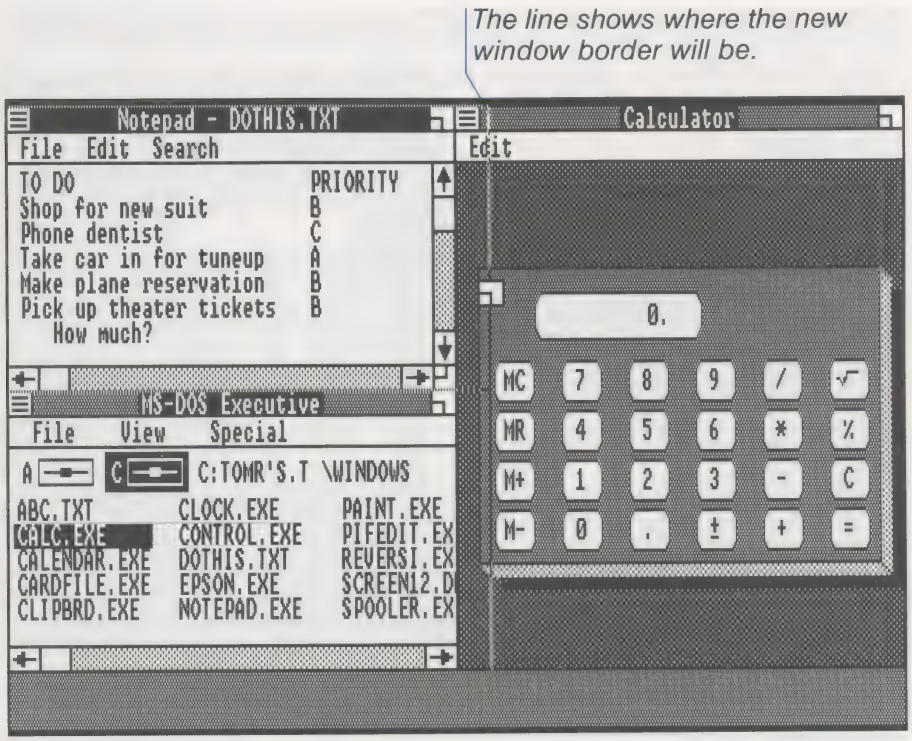
Enlarge the Notepad window

1. Select the Notepad window by clicking anywhere within it. When a window is selected, it becomes the "active" window. The title bar darkens, indicating that the next command you choose will affect this window.
2. Point to the System Menu box at the left side of the title bar.
3. Press the mouse button to display the System Menu.
4. Drag the highlight down to the Size command and release the mouse button.

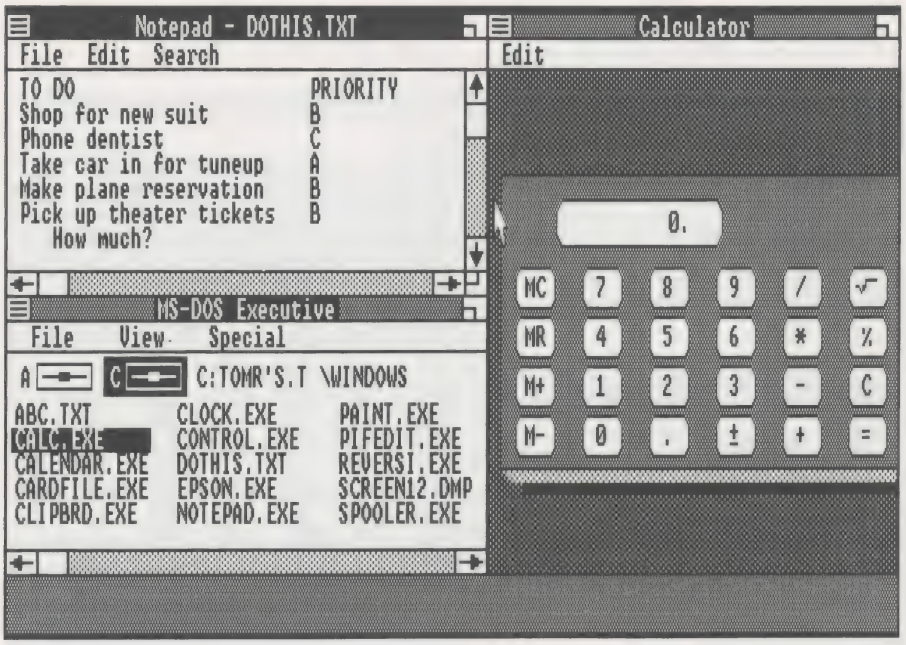
The pointer changes to a small box.



5 Drag the size pointer to the right until the window is the size you want and release the mouse button.



Windows widens the Notepad window and adjusts the size of any adjacent windows.



Whenever you use the Size command, nothing changes until the size pointer moves beyond the window's borders. After you cross the borders, vertical and horizontal lines indicate the new size of the window.

Note You need to drag the size pointer beyond the window borders, then back inside, to make a window smaller.

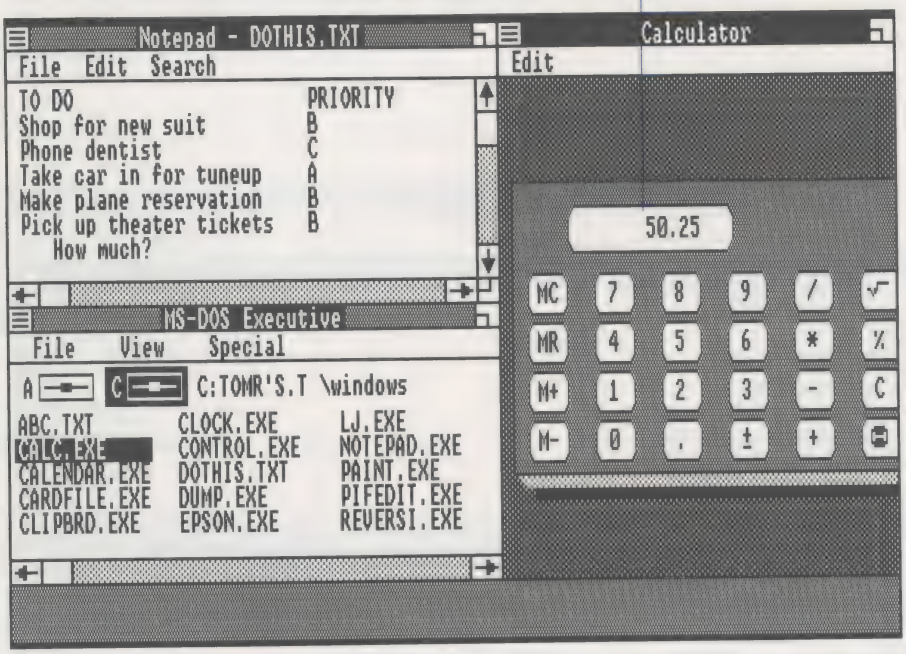
Exercise 7: Using the Calculator

Now use the Calculator to calculate the cost of the three $16.75 theater tickets.

Make your calculation

- ▣ Click on the following numbers and symbols in the Calculator window: *16.75*3=*

The amount appears on the Calculator display.



Once you've made the calculation, type the figures into Notepad:

Type the figures into Notepad

1. In the Notepad window, click to the right of the question mark after "How much?"
2. Type a space, then type *$50.25*

Exercise 8: Shrinking a Window

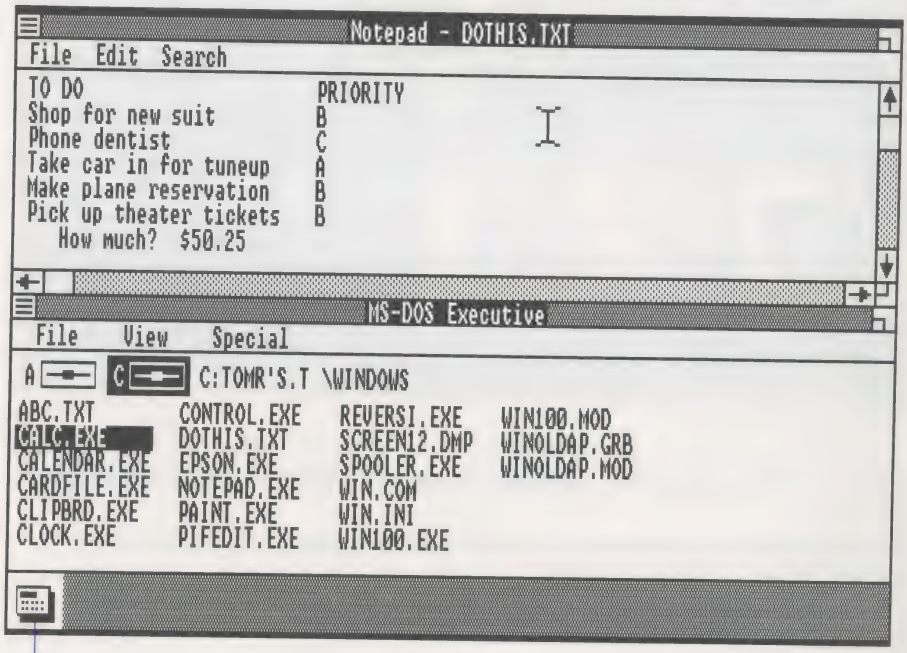
Since you are finished with the Calculator for the time being, you can free space on the screen by shrinking the window into an icon — this means the Calculator is still running in memory if you want to use it again.

You can shrink a window by dragging its icon back into the icon area.

Shrink the Calculator window into an icon

1. Point to the middle of the title bar of the Calculator window.
2. Press the mouse button.
3. Drag the Calculator icon into the icon area.
4. Release the mouse button.

The other windows adjust to fill the screen.



The Calculator icon appears in the icon area.

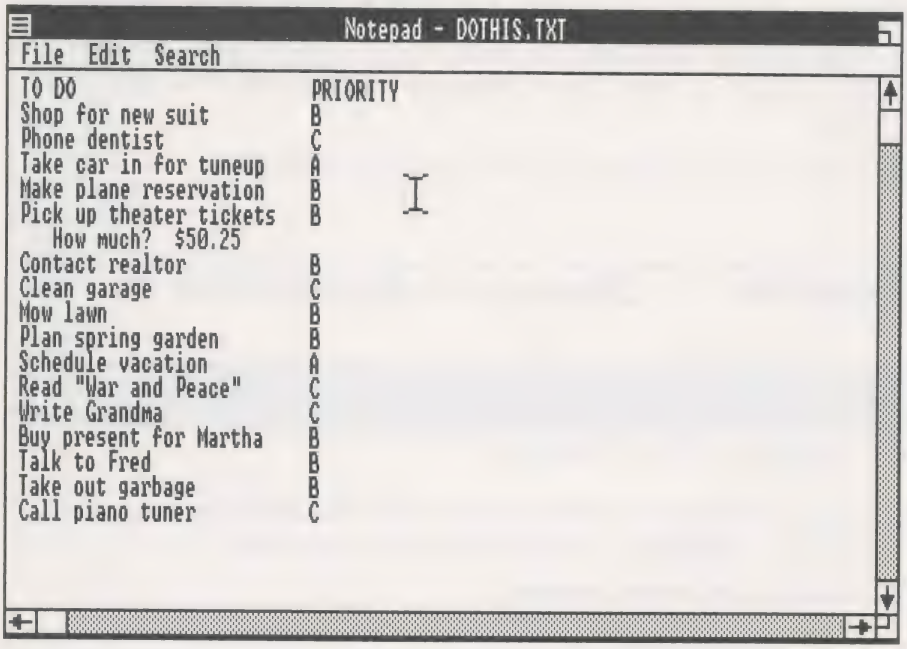
Exercise 9: Zooming a Window

The screen is now divided between the Notepad and MS-DOS Executive windows. Perhaps you would like to see the full Notepad window to review your entire "To Do" list. You can do this with the Zoom command from the System Menu.

Zoom the Notepad window

1. Point to the System Menu box in the Notepad window and press the mouse button.
2. Drag the highlight down to the Zoom command.
3. Release the mouse button.

The zoomed window takes up the entire screen.



Although the Notepad window takes up the entire screen, the MS-DOS window is still intact. To dezoom the window

Dezoom the Notepad window

1. Point to the System Menu box again and drag the highlight down to the Zoom command.
2. Release the mouse button.

The screen looks as it did before.

Exercise 10: Saving a Document

It is a good idea to save your work frequently when you work with any program. The File Menu has two commands for saving documents: Save and Save As. The Save command saves an existing document on the disk, overwriting the previous version. The Save As command saves a new document, or a new version of a document.

For this exercise, use the Save As command from the Notepad File Menu. The revised "To Do" list will be saved under a new name, while the original will remain intact.

Choose the Save As command

1. Point to the File Menu name, then drag the highlight down to the Save As command.
2. Release the mouse button. The Save As dialog box appears.
3. The current filename (DOTHIS.TXT) appears in the text box. To replace it, type a new filename (*MYLIST.TXT*) in the text box.
4. Click the Save button to carry out the command.

Exercise 11: Closing an Application

To close an application and remove it from memory, use the Close command from the application's System Menu.

For example, to close Notepad

Close Notepad

1. Point to the System Menu box in the Notepad window, then drag the highlight down to the Close command.
2. Release the mouse button.

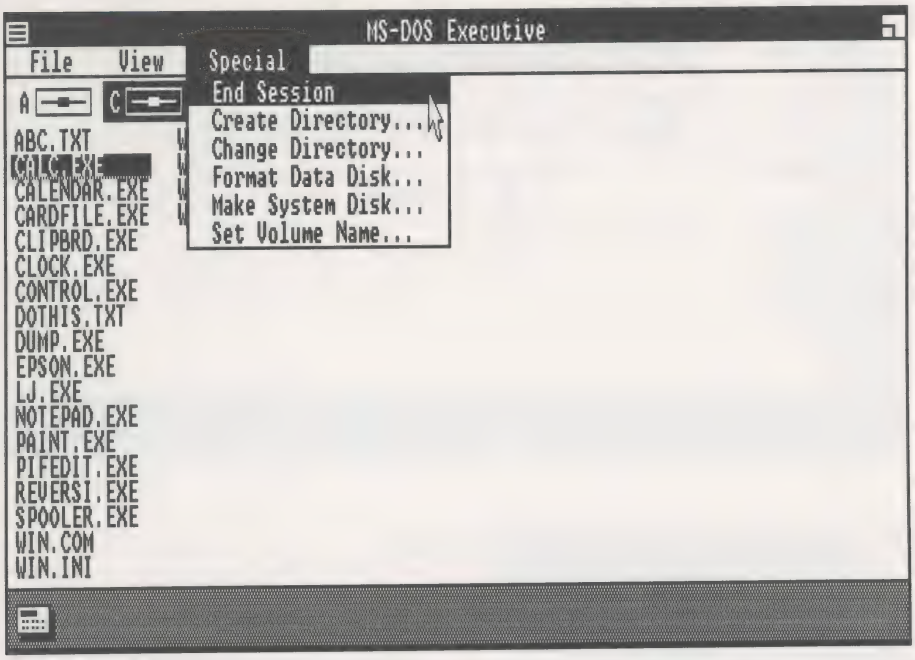
The Notepad window disappears and Notepad is removed from memory. (Note that the icon is not in the icon area.) To use Notepad again, you must run it from the MS-DOS Executive window.

Exercise 12: Ending a Windows Session

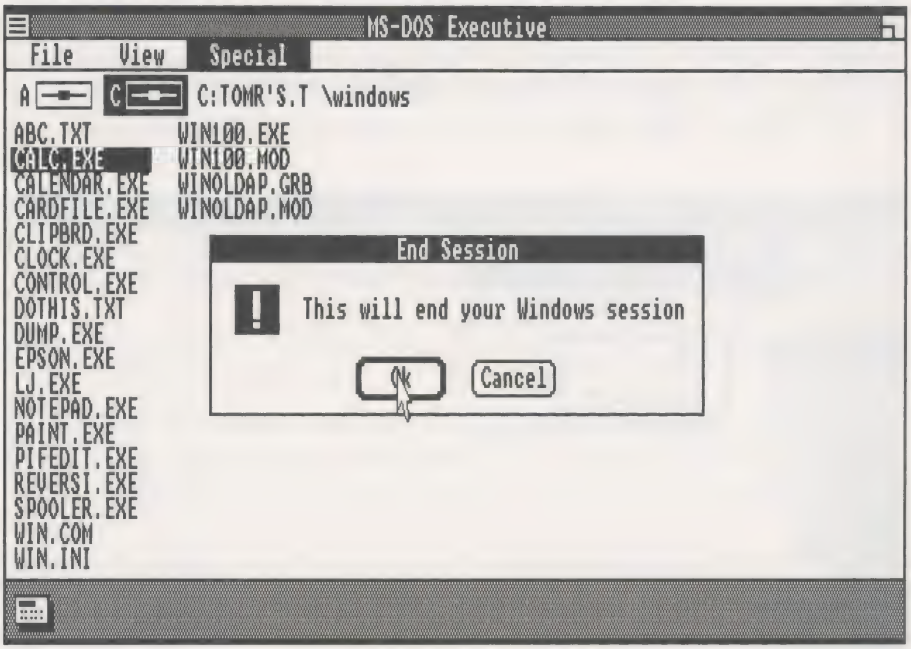
To quit Windows, go to the MS-DOS Executive window and use the End Session command from the Special Menu.

End your Windows session

1 Point to the Special Menu and drag the highlight down to the End Session command.



2 Release the mouse button. You see a dialog box asking if you want to end the session.



3 Click Ok to carry out the command.

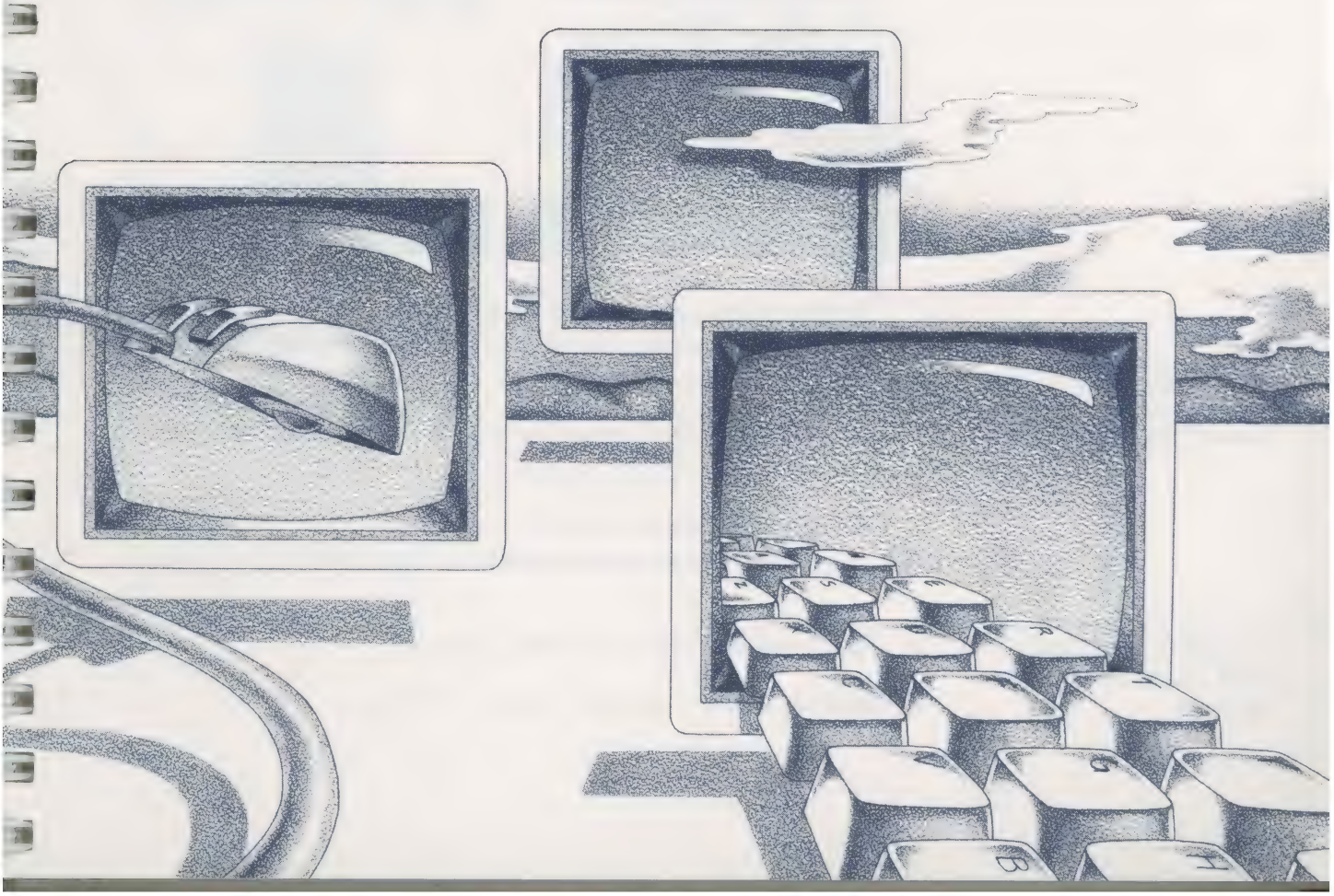
You have learned most of the basic techniques for using Microsoft Windows. If you want to review any of the Windows techniques you have learned, refer to Chapter 4, "Techniques."

4 Techniques

This chapter describes basic techniques for working with Windows and gives information about some Windows features.

Applications designed for Windows (WIN applications) may have additional or alternate ways of doing some tasks. Some WIN applications have shortcuts for commands, options, and procedures. See your application manual for details.

If you have a mouse, you can mix mouse and keyboard techniques to find the easiest way to perform a task.



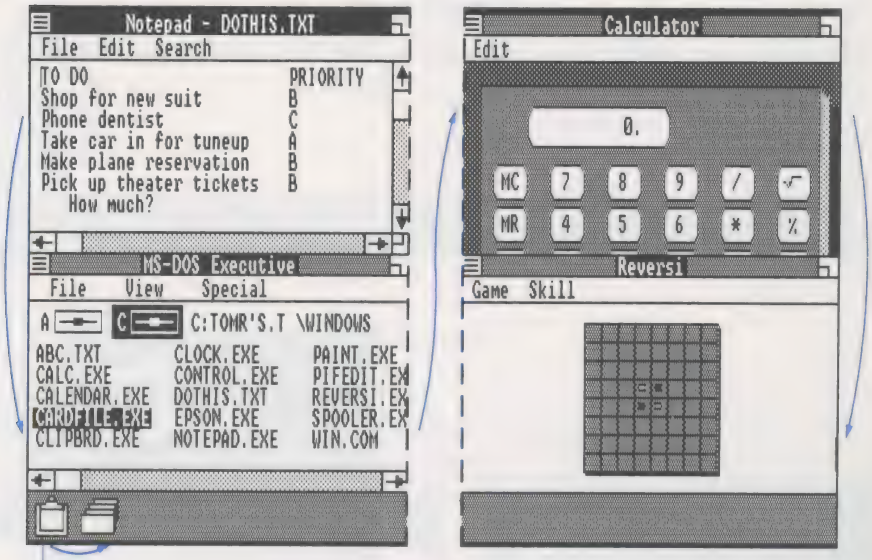
Selecting windows and icons

Selecting Windows and Icons

If you have opened several windows on the screen, you need to select the window you want to work in. When you select it, it becomes the active window.

- Use ALT-TAB to select windows from top to bottom and left to right.
- Use ALT-SHIFT-TAB to select windows from bottom to top and right to left.

Press ALT-TAB to move from window to window--first down the column . . . then to the right.



Then icons are selected from the left to the right.
Press ALT-SHIFT-TAB to move in the opposite direction.

Selecting icons

Once the selection has moved through the windows, it moves to the icon area.

- Use ALT-TAB to select icons from left to right.
- Use ALT-SHIFT-TAB to select icons from right to left.

Selecting windows and icons with a mouse

To select windows and icons with a mouse

- Click anywhere within the window or icon.

Selecting an Object in a Window

Within a window, you need to *select* the object that the next command or action will affect. The selected object is usually highlighted — that is, it appears in reverse video.

Selecting an object

To select an object

1. Move to the object you want to select. In some cases, moving to the object selects it. If not,
2. Press SPACEBAR to select it.

Selecting an object with a mouse

To select an object with a mouse

- Point to the item you want and click the mouse button.

See your application manual for detailed information on selecting within a specific application. See Chapter 9, "Techniques for Standard Applications," for information on selecting within non-WIN applications.

Deselecting an item

To deselect a selected item

1. Move to the selected item.
2. Press SPACEBAR to toggle the selection on and off.

To deselect with a mouse

1. Point to the selected item.
2. Hold down SHIFT and click the mouse button.

Extending a Selection

Extending a selection

To select more than one item or character from, for example, the MS-DOS Executive Window, you extend the selection.

- Hold down the SHIFT key while you select items.

When you have selected everything you want, release the SHIFT key.

To move the underscore without selecting

- Use the CTRL-DIRECTION keys.

Note You cannot extend the selection in a menu.

Choosing Commands from Menus

Choosing a command

Windows commands are organized in *menus* on the menu bar. Each application has its own menus. To choose a command

1. Hold down the ALT key and press the SPACEBAR to display the System Menu. (This menu is common to all applications that appear in a window.)
2. Release the ALT key.
3. Press the RIGHT or LEFT key to display the other application menus.
4. Press the initial letter of the command to highlight it.
5. Press the ENTER key to carry out the command.

Shortcut

An alternate way to choose commands is to

1. Hold down the ALT key and press the initial letter of the menu to display the menu.
2. Press the initial letter of the command to highlight the command.
3. Release the ALT key to carry out the command.

You can press the ESC key to cancel a command or to make a menu go away.

You may need to press the initial letter of the command more than once if the menu has more than one command with the same initial. (For example, if two commands start with "C" you need to press C twice to get to the second one.) This rule does not apply to the menu bar; use the RIGHT and LEFT keys to go to the second or third menu name with the same initial.

Occasionally you may notice that some commands on the menu are disabled (appear gray). You cannot choose these commands at this time. You may need to select something before choosing the command.

Alternate ways to choose commands

There are several ways to choose commands with the keyboard:

To	Press
Display a menu	ALT-SPACEBAR, then DIRECTION keys. or ALT-initial letter of menu.
Highlight commands	initial letter of command. or the DOWN key to move highlight to the command.
Carry out commands	and hold down ALT, display the menu, release ALT. Highlight the command and press ENTER. or and hold down ALT, display the menu and highlight the command, then release ALT.

Your application may have *shortcut keys* — they appear to the right of the menu command. Shortcut keys are usually function keys or control (^) key sequences. Press a shortcut key to carry out a command without displaying a menu.

How ALT works

The ALT key lets Windows know that you are about to choose a command:

- If you release the ALT key before you press another key, nothing happens.
- If you display a menu, but release ALT before choosing a command, the menu remains on the screen. You can press the ESC key to close the menu. Or you can highlight a command and press the ENTER key to carry it out.
- If you hold down ALT while highlighting a command, then release the ALT key, the command is carried out immediately.

Choosing commands with a mouse

To choose commands with a mouse

1. Point to the menu name with the mouse and press the mouse button.
2. Drag the highlight down to the command you want.
3. Release the mouse button.

The System Menu is an exception to some of the guidelines above. See the next section for information on choosing commands from the System Menu.

The System Menu

In addition to the menus for each application, each application window also contains the System Menu. You use the commands on the System Menu to manipulate windows on the screen. (Some dialog boxes also have System Menus.)

Displaying the System Menu

Although you choose commands from the System Menu as you would from any other, you display the System Menu in a slightly different way:

- Hold down the ALT key and press SPACEBAR.

  or

- With a mouse, point to the System Menu box and press the mouse button.

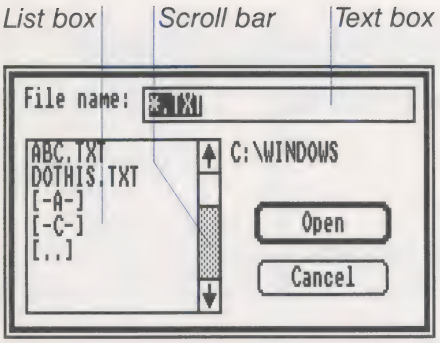
Once the menu appears, you can choose commands as described in the previous section.

Choosing Options in Dialog Boxes

Windows displays a dialog box when it needs additional information to carry out an action. The dialog box contains areas where you enter the information. The dialog box may show a message telling you the type of information needed.

Often a dialog box appears with information already in it reflecting what you've selected on the screen, or options chosen earlier. Some commands or options may appear in a gray tone, indicating that they are currently disabled.

The flashing underscore always shows where you are in the dialog box. When you move the underscore to a text box, it changes to a vertical line called the insertion point.



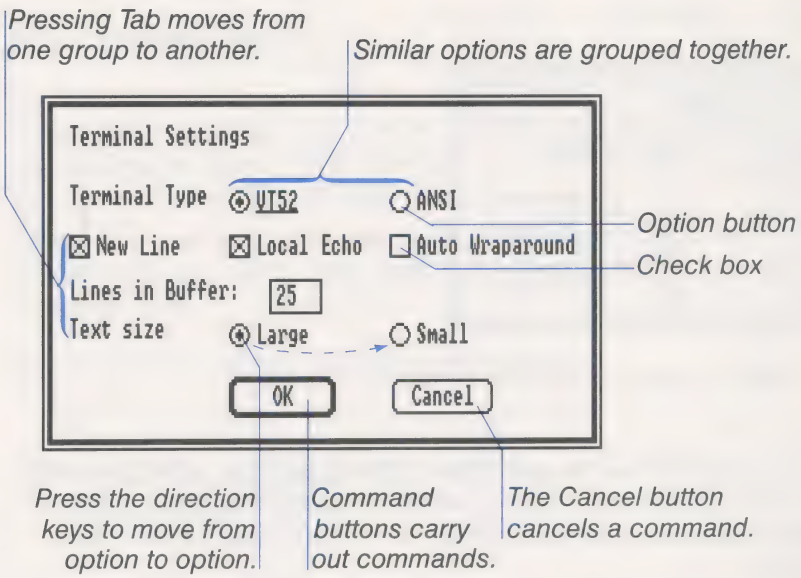
Press TAB to move from text box to list box.

You type information in a *text box*. What you type appears to the left of the vertical line, which pushes existing text to the right as you type. You can press BACKSPACE to correct typing errors in a text box.

The *list box* contains the names of available choices — in this case, the names of files on the disk. The list box may have scroll bars if all available choices don't fit in the list box.

Some dialog boxes contain command buttons, such as Save or Find (instead of Open and Cancel), which are labeled to indicate what the buttons will do.

Square check boxes and circular option buttons let you select options for a particular command: check boxes represent options that are set on or off; option buttons let you select multiple options from a group.



Moving in a dialog box

The following table describes the ways to move within a dialog box:

To	Press
Move within the dialog box	TAB or SHIFT-TAB
Move the insertion point within a text box	DIRECTION keys
Move within a group of check boxes	DIRECTION keys, TAB, or SHIFT-TAB
Move and select within a group of option buttons	DIRECTION keys
Move and select within a list box	UP or DOWN DIRECTION keys

Selecting in a dialog box

To make selections within a dialog box

- Tab to the location and press SPACEBAR.

Selecting in a dialog box with a mouse

To select with a mouse

1. Point to the item in the text box.
2. Click the mouse button.

Selecting the default

Command buttons with bold borders are defaults — options you will want to use most frequently. To automatically select the default command

- Press ENTER.

Some dialog boxes have System Menus. You can use the Close command to close dialog boxes that have no Ok or Cancel button. You can also press the ESC key to close the dialog box.

Running Applications

Running an application with the keyboard

Usually you run applications from the MS-DOS Executive window. To run an application with the keyboard

1. Use the DIRECTION keys to move to the filename in the MS-DOS Executive window. (It will probably have an .EXE or .COM extension.)
2. Press the ENTER key.

Running an application with a mouse

To run an application with a mouse

- Double click the filename of the application you want to run. (This filename usually has an .EXE or .COM extension.)

See Chapter 5, "Using the MS-DOS Executive," for information on the different ways you can run applications.

Expanding Icons

Expanding an icon means moving the application icon from the icon area into the work area, creating a window for the application. See the next section, "How Windows Arranges Your Screen," for details on positioning icons and arranging windows on the screen.

Expanding an icon

To expand an icon and control where it is placed on the screen

1. Select the icon in the icon area by pressing ALT-TAB or ALT-SHIFT-TAB.

2. Choose the Move command from the System Menu.
3. Press the DIRECTION keys to move the icon to the desired position on the screen.
4. Press the ENTER key to complete the move.

A quick way to expand an icon is to

1. Select the icon by pressing ALT-TAB or ALT-SHIFT-TAB.
2. Choose the Icon command from the System Menu.

Windows expands the new window just above where the icon was, below any windows already in the column. Other windows on the screen are adjusted.

Expanding an icon with a mouse

To expand an icon with a mouse

1. Point to the icon in the icon area.
2. Press the mouse button and drag the icon to the desired position in the work area.
3. Release the mouse button.

Shortcut

To quickly expand an icon with a mouse

- Double click on the icon.

The icon expands to a window just above the icon area.

How Windows Arranges Your Screen

How windows are arranged

Windows uses the following conventions when arranging windows in the work area:

- If there are no windows on the screen, the new window fills the screen.
- If you position the icon within an existing window, the new window replaces it. The existing window shrinks to an icon in the icon area.
- If you position the icon on an existing window border, Windows adds the new window to those already on the screen. Where the window appears depends on the placement of the icon.

For example, if you position the icon on a horizontal border, the new window opens adjacent to that border.

If you position the icon on a vertical border, the new window opens adjacent to that border and creates a new vertical column on the screen. (For example, if you place the icon on a left border, the new window opens to the left of the existing window.)

If you place the icon on the intersection of window corners, Windows expands a horizontal window.

Windows are resized to affect the fewest number of windows; Windows usually adjusts and resizes any window(s) adjacent to a newly opened window.

However, if the new window and adjacent windows would be too small to work with, Windows automatically adjusts the sizes of all windows in that column.

If you use the shortcut methods of expanding icons (choosing the Icon command or double clicking on the icon), Windows expands the new window in the column directly above the icon and below any windows already expanded in that column.

Moving Windows

You move windows in much the same way that you expand icons — by selecting and then placing the icon on top of a window or a window border.

Moving a window

To move a window

1. Select the window you want to move by pressing ALT-TAB or ALT-SHIFT-TAB.
2. Choose the Move command from the System Menu. When you press ENTER, an icon appears.
3. Move the window icon by pressing the DIRECTION keys until the icon is on top of a window or a window border.
4. Press the ENTER key again to complete the move.

Moving a window with a mouse

To move a window with a mouse

1. Point to the middle of the title bar of the window you want to move and press the mouse button. The pointer changes to an icon.
2. Drag the icon to the new location and release the mouse button.

When you move a window, Windows follows the same placement rules used when you expand a window.

If you select a window that is already on the screen and position its icon within another window, the two windows will trade places.

Changing the Size of Windows

Although Windows adjusts the size of your windows automatically when you expand or move them, you may want to make some of the windows on the screen larger or smaller to suit your needs.

Changing window size

To change the size of a window

1. Select the window by pressing ALT-TAB or ALT-SHIFT-TAB.
2. Choose the Size command from the System Menu. A small size box appears in the middle of your window.
3. Move the size box past the window borders to the size you want by pressing the DIRECTION keys.
4. If you want a smaller window, move the size box beyond the window borders, then return to the size you want.
5. Press the ENTER key to complete the action.

Changing the size with a mouse

To change the size of the window with a mouse

1. Choose the Size command from the System Menu. The small size box appears in the window.
2. Drag the size box to the size you want. To make the window larger, drag beyond the window border. To make the window smaller, drag beyond, then back within, the borders.
3. Release the mouse button.

Changing the size with the size box

Some windows may have a small size box in their upper or lower right corner. If you have a mouse, you can use this size box instead of the Size command to change the window size:

1. Point to the size box of the window you want to change.
2. To make the window larger, drag the size box beyond the window borders. To make the window smaller, drag beyond, then back within, the borders.
3. When the window is the size you want, release the mouse button.

Zooming

Zooming a window

To make a window the full size of the screen, you can *zoom* the window:

1. Select the window.
2. Choose the Zoom command from the System Menu.

Zooming with a mouse

To zoom with a mouse

- Double click the size box.

Zooming an icon

To zoom an icon

- Hold down the SHIFT key, then double click the icon. The icon expands to fill the entire screen.

A zoomed window obscures all other windows as well as the icon area. When you zoom back out, Windows restores the screen to its previous state.

Dezooming

To dezoom

- Choose the Zoom command from the System Menu.

Shrinking Windows

You shrink a window into an icon when you are finished working with it, but want it available to use later. The application is still running in memory (represented by the icon in the icon area), but is not taking up space in the work area. It is useful to shrink a window if you are running a time-consuming process and want to put it aside and return to it later. Or you can shrink a window to make more room on your screen.

Shrinking a window

To shrink a window

1. Select the window you want to shrink by pressing ALT-TAB or ALT-SHIFT-TAB.
2. Choose the Icon command from the System Menu.

Shrinking a window with a mouse

To shrink a window with a mouse

1. Point to the title bar of the window you want to shrink and press the mouse button. The pointer changes to an icon.
2. Drag the icon into the icon area and release the mouse button.

Shortcut

To quickly shrink a window

- Double click the title bar of the window you want to shrink.

Scrolling

Some application windows have scroll bars, which let you view information that won't fit in the window.

Scrolling

To scroll once you have reached the last character or item in the window

- Press the DIRECTION key in the direction you want to scroll.

For example, to scroll right, go to the right-most character or item on the screen and keep pressing the RIGHT key.

To scroll	Press
Up one screen	PAGE UP
Down one screen	PAGE DOWN

Scrolling with a mouse

To scroll with a mouse

To scroll	Do this
One line at a time	click the scroll arrows at either end of the scroll bar.
One window at a time	click in the gray area on either side of the scroll box.
To a general location	drag the small white box (the *scroll box*) in the scroll bar to a position in the scroll bar that corresponds to the general location you want (beginning, middle, or end of the file).

Messages from Unselected Windows

Receiving messages from unselected windows

When an unselected application needs to send you status or error information, you will hear a beep; the application will then flash its title bar or icon.

- Press ALT-TAB or ALT-SHIFT-TAB to select the application's window or icon.

The message will appear as soon as you have selected the window or icon.

Closing Applications

You close an application — remove it from memory — when you are finished with it. To work with it again, you need to run the application from the MS-DOS Executive window.

Closing an application

To close an application

1. Select the application window you want to close.
2. Choose the Close command from the System Menu.

To close an application quickly with a mouse

- Double click the System Menu box.

Shortcut

If you close the MS-DOS Executive window and no other windows are on the screen, it ends your session.

Ending a Session

When you end a Windows session, you quit Windows and return to MS-DOS. If you have applications running when you end the session, you may be prompted to save them.

Ending a session

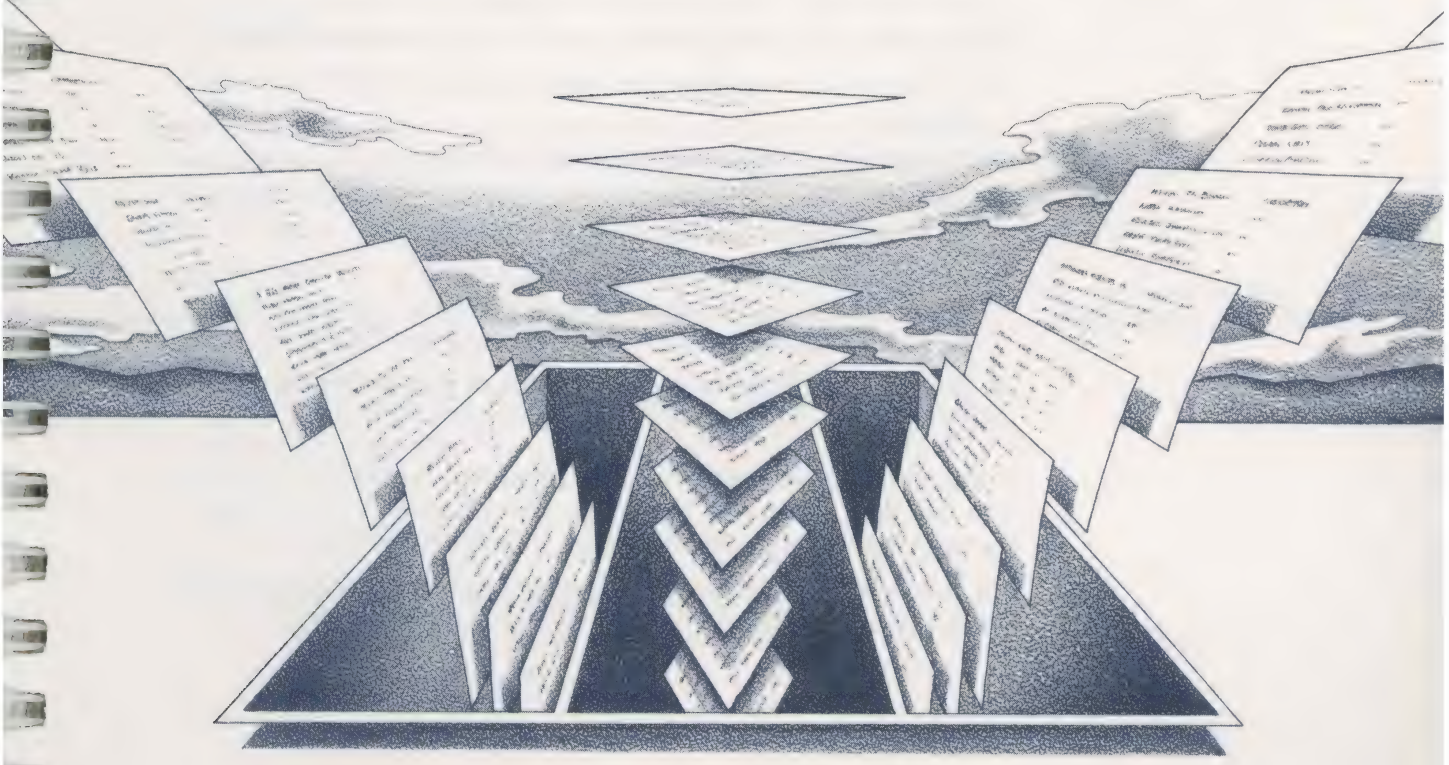
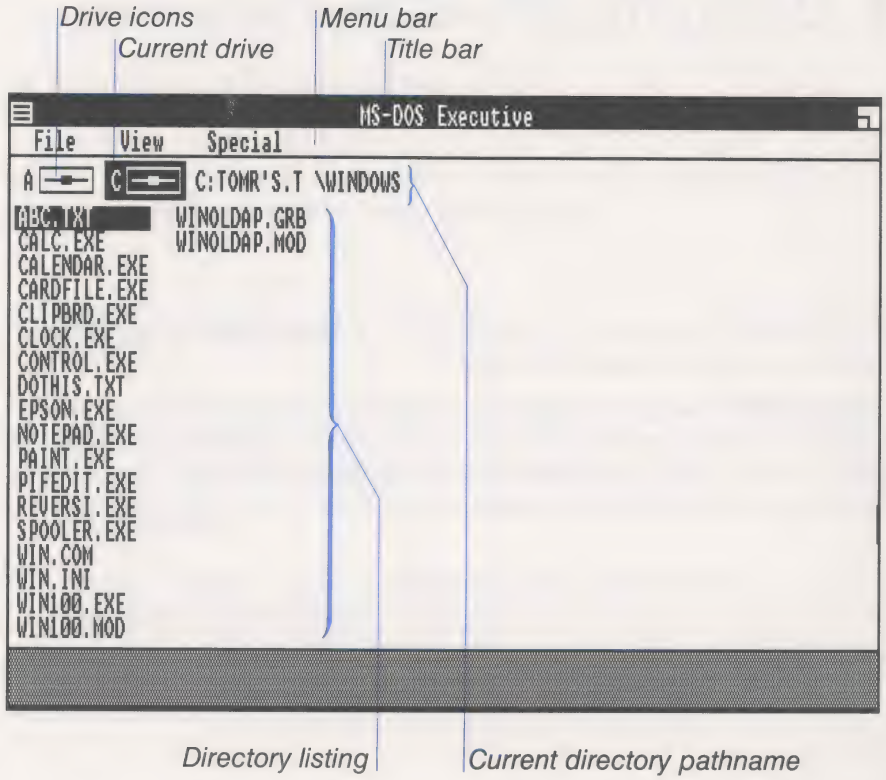
To end a session

1. Choose the End Session command from the MS-DOS Executive's Special Menu.
2. You will see a dialog box asking you to confirm that you want to end the session. Choose Ok.

5 Using the MS-DOS Executive

The MS-DOS Executive

The MS-DOS Executive is automatically run and expanded whenever you start Microsoft Windows.

The MS-DOS Executive gives you access to the MS-DOS commands. You use the MS-DOS Executive to run applications, copy files, rename and delete files and directories, and print. You can also create directories to organize files into convenient groups.



- The *directory listing* shows the files in the current directory.
- The *menu bar* contains the names of the MS-DOS Executive menus.
- The *title bar* displays the application name.
- The *drive icons* represent the disk drives of your computer. The *current drive* is highlighted.
- The *pathname* shows what directory you are in. The pathname consists of the drive name, followed by the volume name (if there is one), then the current directory pathname.
- The *flashing underscore* shows where you are in the window.

If the entire listing can't fit in the window, the MS-DOS Executive will display a horizontal *scroll bar.* See Chapter 4, "Techniques," for more information on scrolling.

For detailed information on MS-DOS directory structure and files, see the MS-DOS manuals provided with your computer.

Making Selections

When you work with Windows, you need to *select* the object that the next command or action will affect. The selected object is usually highlighted — that is, it appears in reverse video.

To select a file or directory (shown in bold) in the MS-DOS Executive window, use the DIRECTION keys to move the flashing underscore to the file or directory name. You can also type the first letter of a filename or directory name — for example, if you type S, you go to the first filename or directory beginning with S. Typing S again takes you to the second filename or directory beginning with S, and so on.

Selecting

The following table describes how to make selections from the keyboard:

To select	Press
A filename or directory	DIRECTION keys or initial letter
Drive icons	CTRL-drive letter

Selecting with a mouse

To select with a mouse

- Point to the drive, filename, or directory you want and click the mouse button.

Note Pressing the SPACEBAR toggles the selection. You can press the SPACEBAR to deselect a filename or directory that you have selected. If you have a mouse, you can press the SHIFT key and click the mouse button.

Extending a selection

To select more than one item, you *extend* the selection:

- Hold down the SHIFT key when you are selecting filenames and directories. When you have selected everything you want, release the SHIFT key.

To move to something without selecting it

- Hold down the CTRL key and press the DIRECTION keys.

Selecting scattered files

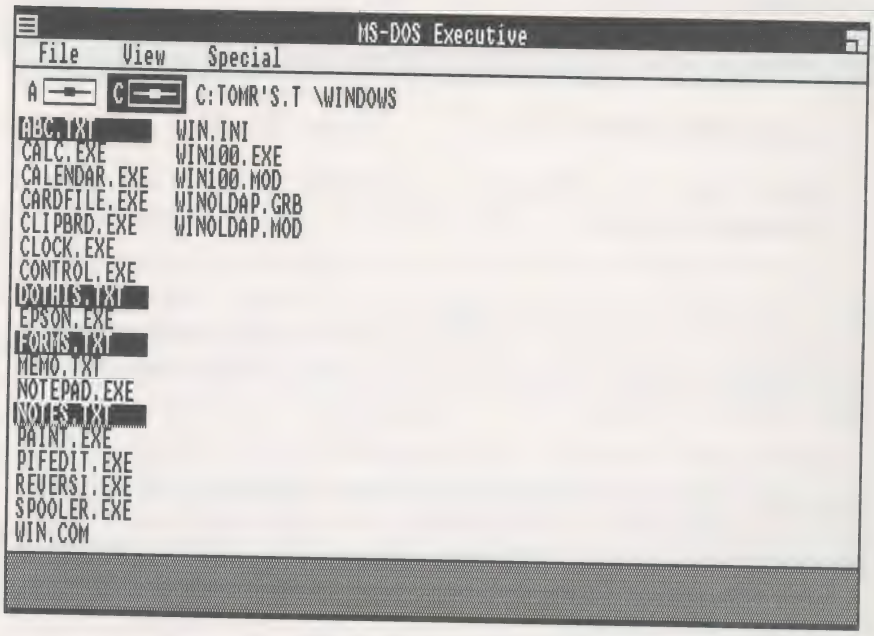
You can select files that are scattered throughout the MS-DOS Executive listing:

1. Use the DIRECTION keys to move the underscore to the first file you want to select.
2. Press SHIFT-SPACEBAR to select it.
3. Press CTRL-DIRECTION key to move across files you don't want to select.
4. Repeat steps 2 and 3 to select all desired files.

Selecting scattered files with a mouse

To select scattered files with a mouse

1. Hold down the SHIFT key and click the mouse button on each file you want to select.
2. Release the SHIFT key.



Selecting a block of files

You can also select a block of files — that is, files that are next to each other:

1. Move the underscore to the first file you want to select.
2. Hold down the SHIFT key and use the DIRECTION keys to move to the rest of the files you want to select. The filenames will be selected as you move across them.
3. Release the SHIFT key when you are finished selecting.

Selecting a block of files with a mouse

To select a block of files with a mouse

1. Point to the first file you want to select.
2. Hold down the SHIFT key and click the Mouse button on all files you want to select.
3. Release the SHIFT key when you have selected the files you want.

Chapter 4, "Techniques," contains more information about selecting and about other basic skills.

Scrolling

Windows that contain more than one screen of information will have scroll bars that allow you to scroll the screen.

See Chapter 4, "Techniques," for details on how to scroll with the keyboard and with the mouse.

Running an Application

Running an application

An application file usually has the name of the program as the filename, with an .EXE or .COM extension. For example, the file containing the Calculator program is CALC.EXE.

You run applications from the MS-DOS Executive window. Running an application file loads the file into a window, usually replacing the MS-DOS Executive window.

To run an application

- Select the application filename and press the ENTER key.

To run an application with a mouse

- Point to the filename and double click the mouse button.

The Run command

To run an application in a different directory, use the Run command from the MS-DOS Executive File Menu. The Run command lets you supply additional information, such as a pathname or a command line argument:

1. Choose the Run command from the File Menu. The Run dialog box appears.
2. Type the application filename in the text box. Include the .EXE or .COM filename extension. Include additional information (such as a pathname) if you need to.
3. Choose Ok.

Running an application as an icon

You can also run an application as an icon in the icon area, instead of replacing the MS-DOS Executive window:

- Select the filename and press SHIFT-ENTER.

To run an application as an icon with a mouse

- Hold down the SHIFT key and double click on the application filename.

The Load command

If you want to run an application as an icon, but need to supply additional information (such as a pathname or parameters), use the Load command from the File Menu:

1. Choose the Load command from the MS-DOS Executive File Menu.
2. Type the application filename in the text box. Include the .EXE or .COM filename extension. Include any additional information (such as a pathname) you need.
3. Choose Ok.

Many applications supply a particular filename extension to the files you create with them. With applications of this type, you can run an application and open a file — for example, a text file or a data file — in one step:

1. Select the name of the file you want to open in the MS-DOS Executive window.
2. Press the ENTER key or double click the mouse button.

Working With Files

A file can contain a document, an application, a program you have written, or lines of text.

Files in Microsoft Windows use MS-DOS filenaming conventions. See your MS-DOS manual for information on naming files, directories, and paths.

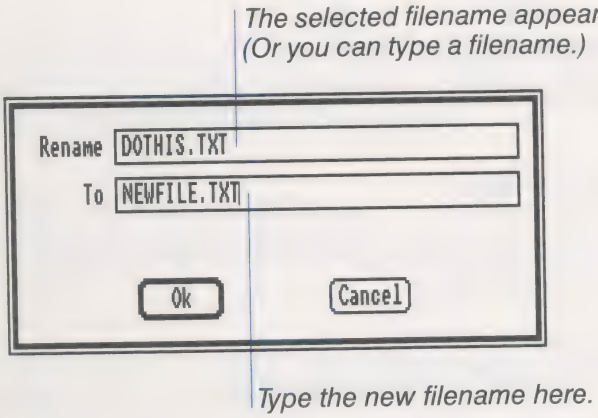
Since many applications automatically supply a filename extension, you needn't supply one unless you want to. When deleting files, however, you must supply the entire filename, including any extension.

Changing the Names of Files

Changing a filename

To change a filename, use the Rename command from the MS-DOS Executive File Menu:

1. Select the file you want to rename.
2. Choose Rename from the File Menu. The Rename dialog box appears.
3. Type the new filename in the To text box.
4. Choose Ok.



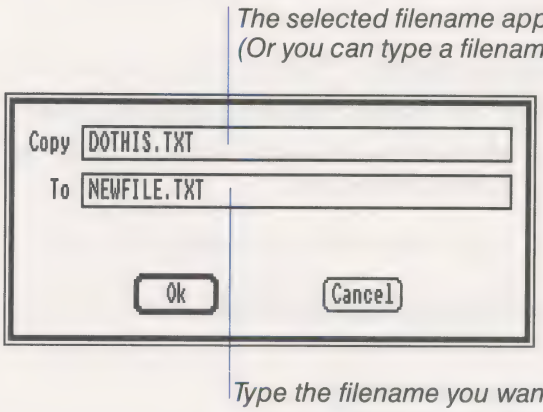
Copying Files

Copying a file

To copy a file under a new name or create a copy in a different directory, use the Copy command from the File Menu:

1. Select the file you want to copy.
2. Choose the Copy command from the File Menu. The Copy dialog box appears. The selected filename appears in the text box labeled Copy.
3. Type the new filename, or the directory you want to copy to, in the text box labeled To.

   If you have a two-drive system and are copying the file to another disk, put the destination disk in drive B.
4. Choose Ok.



Copying Groups of Files

Copying a group of files

To copy several files at the same time, you select all the files and then copy them all in one operation.

1. Select all the files you want to copy.
2. Choose the Copy command from the File Menu.
3. You will see all the selected filenames in the Copy text box. In the To text box, type the files or directory that you want the files copied to.

   If you have a two-drive system and are copying the file to another disk, put the destination disk in drive B.
4. Choose Ok.

Note You cannot copy more than one file to a single file. You can copy multiple files to a directory.

For details on selecting groups of files, see "Making Selections" in this chapter.

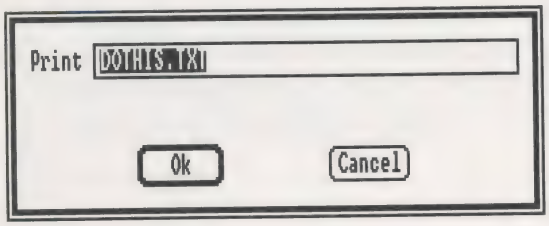
Printing Files

Most applications have a command that prints files you create with that application. You should use that command whenever possible.

However, if you want to print files from the MS-DOS Executive, you can use the Print command from the File Menu. You can print text files or data files with the Print command:

Printing a file

1. Select the file you want to print.
2. Choose Print from the File Menu. The Print dialog box will appear.
3. Choose Ok.



Execution of the Print command creates a print spool file which is sent to the Spooler program. See Chapter 8, "Using the Spooler," for more information on the spooler.

Note Refer to the hardware manual for your printer for instructions on setting up the printer and connecting it to your computer.

See Chapter 7, "Using the Control Panel," for details on setting up, adding, or removing a printer.

Deleting Files

Deleting a file

When a file is no longer useful, you may want to delete it to make room for other files. When you delete a file, you remove it from the disk permanently. You delete files with the Delete command from the File Menu:

1. Select the file you want to delete.
2. Choose Delete from the File Menu. The Delete dialog box displays the name of the selected file.
3. Choose Ok.

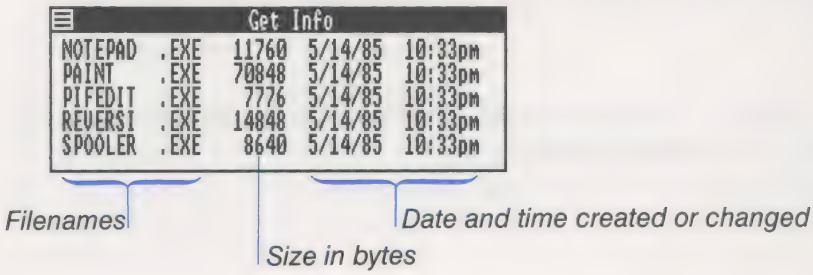
To delete more than one file at a time, select all the files you want to delete, then follow the procedure above.

Getting Information About Files

Getting file information

If you want more information about a particular file or group of files, you can use the Get Info command from the File Menu. When you choose Get Info, Windows displays a dialog box showing the filename(s), size in bytes, and the date and time it was created or last changed:

1. Select the files you want information for.
2. Choose Get Info from the File Menu. The Get Info dialog box will appear. (You may need to scroll to see all the information in the dialog box.)
3. When you are finished looking at the dialog box, press ESC or choose the Close command from the System Menu or the dialog box.


Get Info
NOTEPAD .EXE 11760 5/14/85 10:33pm
PAINT .EXE 70848 5/14/85 10:33pm
PIFEDIT .EXE 7776 5/14/85 10:33pm
REVERSI .EXE 14848 5/14/85 10:33pm
SPOOLER .EXE 8640 5/14/85 10:33pm
Filenames
Size in bytes
Date and time created or changed

Working With Directories

A directory organizes a group of files under a single name. You can also create subdirectories within a directory.

The name of the current directory (the one you are in now) is always shown in the pathname at the top of the MS-DOS Executive window. (A pathname is a sequence of directory names with backslashes separating the names.)

Directory names appear at the beginning of the directory listing in the MS-DOS Executive window. A directory name appears in bold letters when the listing is in short form. When the listing is in long form, directory names are listed in one long column followed by <DIR>.

Creating Directories

Creating a directory

You must create a directory before you can put files in it:

1. Choose the Create Directory command from the Special Menu. The Create Directory dialog box will appear.
2. Type the new directory name.
3. Choose Ok.

Once you create a directory, you can use the Copy command from the File Menu to copy files into it. See "Copying Files" in this chapter for details. You can use an application to create new files for the directory.

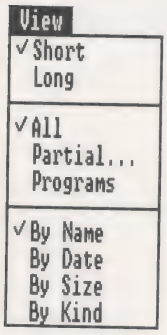
Changing the Way a Directory Looks

When you first start Microsoft Windows, the files in the MS-DOS Executive window are listed in alphabetical order. The directory names are at the top of the list.

However, sometimes you will want to see the files listed in a different way. Perhaps you want to see them in order of their size, or by the date they were created or changed. Or perhaps you would like to see only files having the same extension.

You can change the order in which files are listed by using commands from the View Menu.

The View Menu



The commands in the View Menu are divided into three groups. Some commands have checkmarks beside them. This means that these commands are in effect.

When you choose a command from the View Menu, it affects only the directory you are displaying at that time.

You can choose a command from each group on the View Menu to list your files in different ways:

- The *Short* command displays a listing in multiple columns by filename only.
- The *Long* command displays each file's filename, extension, size in bytes, and date and time created or last changed. The display is in one long column.
- The *All* command lists all files in the directory.
- The *Partial* command lets you specify a subset of the directory to display.
- The *Programs* command displays files with .EXE, .COM, and .BAT extensions only.
- The *By Name* command sorts the listing alphabetically.
- The *By Date* command sorts a directory by the date and time each file was created or most recently changed (with most recent first).
- The *By Size* command sorts files in a directory from largest to smallest (in bytes).
- The *By Kind* command sorts files alphabetically by filename extension.

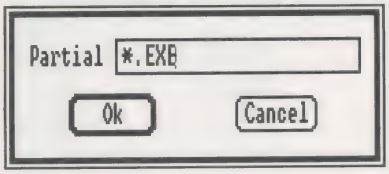
All commands except Partial take effect as soon as you choose them. See the following procedure for details on using the Partial command.

Displaying part of a directory

You may not always want to see all the files in a directory, but would prefer to see only some files. For example, you may want to see only the files with the .EXE extension. Use the Partial command to specify the kind of files you want to see:

1. Choose Partial from the View Menu. The Partial dialog box will appear.
2. In the text box, specify the file or files you want to see. Use "wildcard" characters to tell Windows which sort of file to display—for example, type **.EXE* to display all filenames with the .EXE extension.

Wildcards are special characters used to represent other characters in a filename. See your MS-DOS manual for details on using wildcards to specify filenames or directory names.



3 Choose Ok.

Changing Directories

You change directories when you want to see what is in another directory, or want to work with the files in another directory. You can move from one directory to another easily with the Change Directory command from the Special Menu:

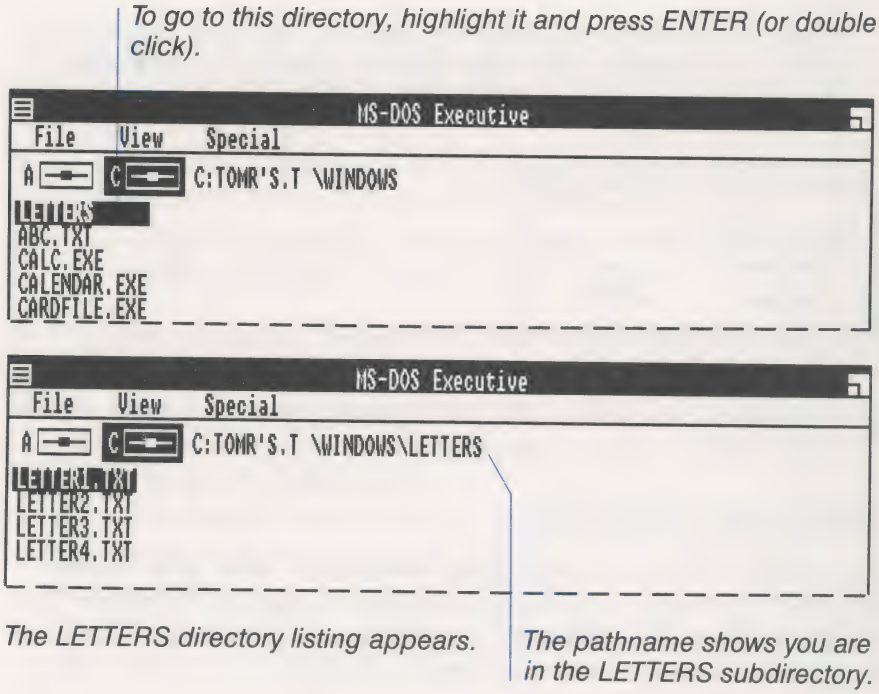
Changing directories

1 Choose the Change Directory command from the Special Menu. A dialog box appears. The text box contains the name of the directory you are in now.
2 Type the directory you want to go to, including a drive letter and pathname if you wish.
3 Choose Ok.

Shortcut

To quickly change directories from the MS-DOS Executive

1 Select the name of the directory you want (directories appear in boldface).
2 Press the ENTER key.



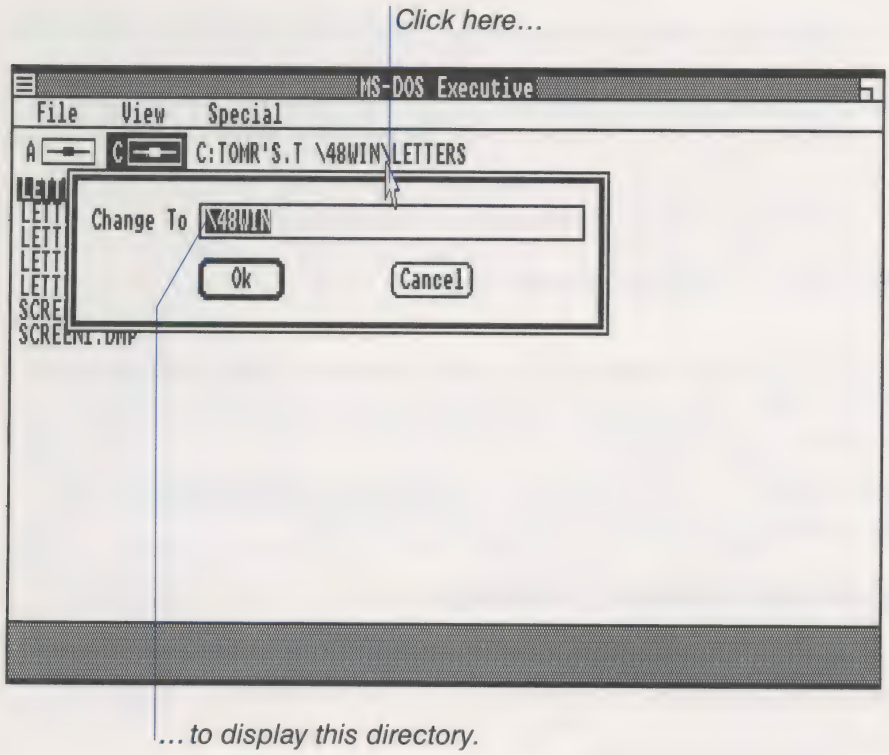
Changing directories with a mouse

To change directories with a mouse

- Point to the name of the directory you want, then double click the mouse button.

The pathname at the top of the MS-DOS Executive window always shows your location in the directory structure. If you have a mouse, you can move quickly from one directory to another by clicking on the pathname.

When you click on the pathname, the Change Directory dialog box appears. The pathname to the left of the place you clicked appears in the text box. You can type the pathname of any directory you want, then click Ok.



You can also double click on a pathname (or part of a pathname) to go to that directory without seeing the Change Directory dialog box.

Note No matter where you are or what you have selected in the MS-DOS Executive window, you can go to the next higher directory by pressing the BACKSPACE key.

Displaying Multiple Directories

Displaying multiple directories

To display two different directories at the same time, run a second MS-DOS Executive window and select a different directory or disk icon in each window:

1. Select MSDOS.EXE (on a two-floppy drive system, located on the Windows System Disk) and run the MS-DOS Executive as an icon.
2. Move the MS-DOS Executive icon into the work area. Make sure you put the icon on a window border.
3. In the new MS-DOS Executive window, select the directory that you want to see and press the ENTER key.

Displaying the contents of another disk

To display the contents of another disk

- Press CTRL plus the drive letter to choose a drive icon; this displays the directories on the disk in that drive.

To display the contents of another disk with a mouse

- Click on the desired drive icon.

Each copy of the MS-DOS Executive window acts independently of the other, so you can display and work with different directories in each window.

See Chapter 4, "Techniques," for details on running applications as icons and moving them into the work area.

Printing Directory Listings

Printing a directory listing

Microsoft Windows prints the directory listing as it appears in the MS-DOS Executive window:

1. Select the directory.
2. Choose the Print command from the File Menu. The Print dialog box appears.
3. Choose Ok.

To print the current directory, first deselect any files or directories that are selected. (To deselect a filename or directory, press SPACEBAR. If you have a mouse, point to the selected filename, press the SHIFT key and click the mouse button.) Then use the procedure described above.

Deleting Directories

Before you can delete a directory permanently from the disk, you must first delete all files in the directory. Windows will not delete a directory that contains files. This precaution protects you from losing files should you unintentionally try to delete a directory.

Deleting a directory

To delete a directory

1. Select all the files in the directory and choose the Delete command from the File Menu to delete them.
2. Select the directory name and choose the Delete command from the File Menu.

Working With Disks

You can use the MS-DOS Executive to format disks, make system disks, and run certain DOS programs.

Formatting a disk

Before you can use a new disk, you must first prepare the disk by *formatting* it. You can format the disk as a data disk or a system disk. A data disk is a blank formatted disk for storing data. A system disk contains the files necessary for starting DOS. You cannot format hard disks.

Making a data disk

To make a data disk

1. Insert the new disk in your computer's disk drive.
2. Choose the Format Data Disk command from the Special Menu. A dialog box will appear.
3. Choose the icon for the drive containing the new disk.
4. Choose Ok.

Warning Formatting a disk erases any information that is already on the disk.

Making a system disk

To make a system disk, use the Make System Disk command from the Special Menu. Use the same procedure described for making a data disk. Make system disk may request that you insert your DOS system disk.

Naming Disks

Naming a disk

To identify a disk by its contents, give it a volume name. Use the Set Volume Name command on the Special Menu:

1. Select the drive icon for the drive containing the disk you want to name.
2. Choose Set Volume Name from the Special Menu.
3. The Set Volume Name dialog box appears. Type a name in the text box.
4. Choose Ok.

The volume name for the disk will appear after the drive letter in the pathname.

Running MS-DOS Utility Programs

Some MS-DOS utility programs such as CHKDSK or DISKCOPY can be run in a window, as long as the programs are in directories that are accessible to Windows. See Chapter 9, "Techniques for Standard Applications," for further information.

Running COMMAND.COM

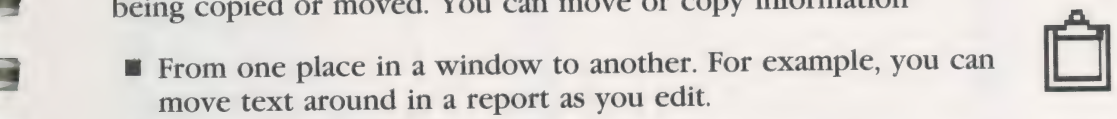
You can also carry out MS-DOS commands in Windows by running COMMAND.COM:

1. Insert a disk containing COMMAND.COM. (This file is not on the Windows disk.)
2. Display the directories for that disk.
3. Run COMMAND.COM from the MS-DOS Executive window.
4. Type the command you want to run and press the ENTER key.
5. When you are finished, type *exit* to leave the COMMAND.COM window. Then choose the Close command from the System Menu.

Although you can run DOS utility programs from COMMAND.COM, it is recommended that you run them directly from the MS-DOS Executive program.

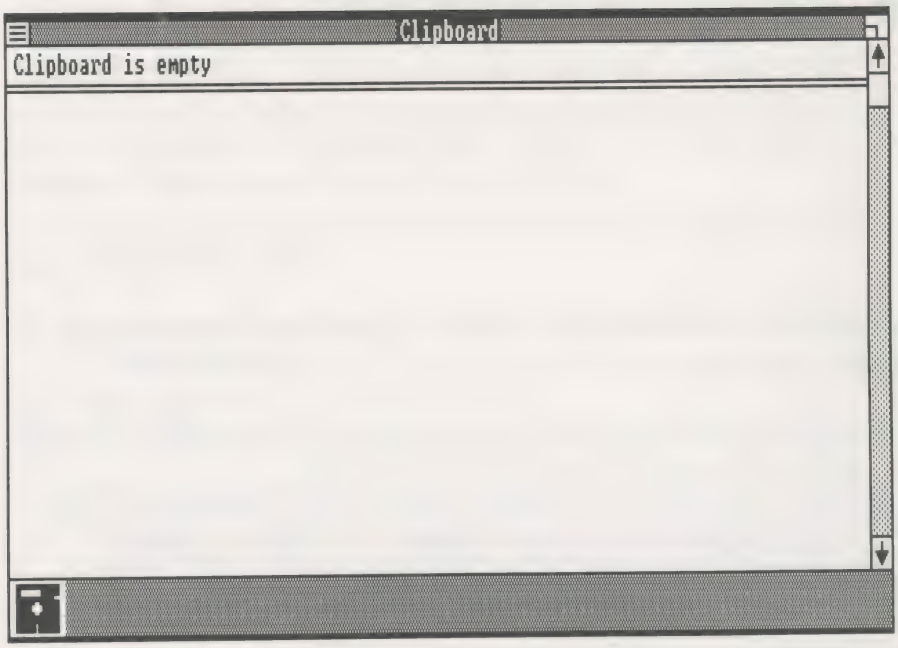
6 Using the Clipboard

The Clipboard



In Microsoft Windows, you use the Clipboard to hold information being copied or moved. You can move or copy information

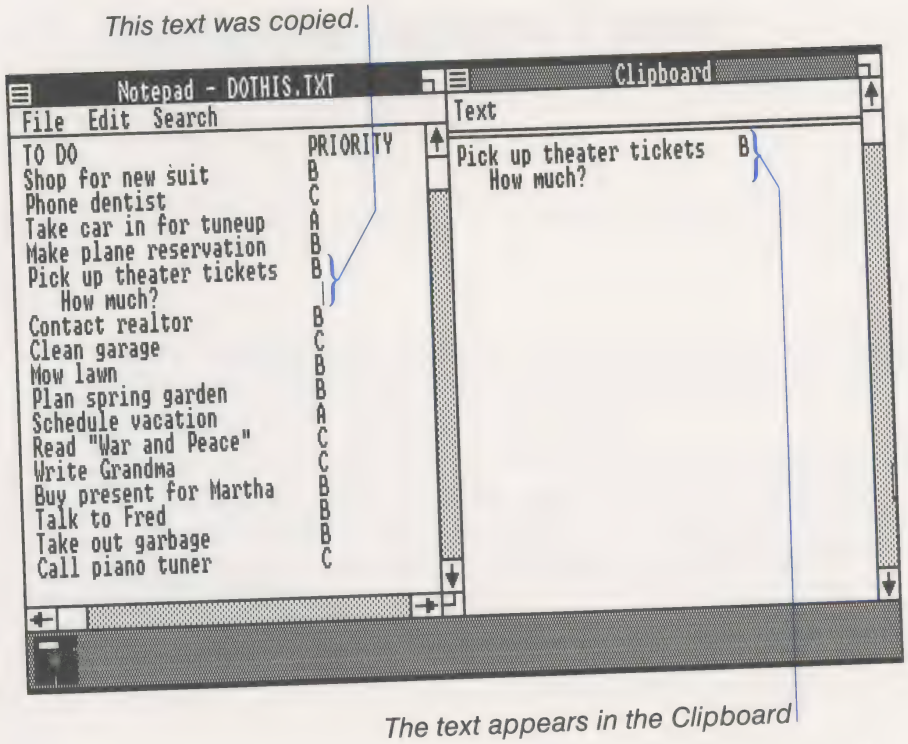
- From one place in a window to another. For example, you can move text around in a report as you edit.
- From one window to another window. For example, you can copy information from one report into another report.
- From one application to another application. For example, you can move a picture from Paint or a total from Calculator into the text of a report.



Cut, Copy, and Paste

To put information on the Clipboard, use the application's Cut or Copy commands. To insert information from the Clipboard to your application, use the application's Paste command. While your application may have different names for these commands, they should operate in this way:

- The Cut command *deletes* the selected information from the window and places it on the Clipboard.
- The Copy command *makes a copy* of the selected information and places it on the Clipboard, leaving the selected information in its original location.
- The Paste command *inserts* information from the Clipboard to a selection in a window. If there is an insertion point, the information appears to the left of the insertion point. If there is a selection, then the information from the Clipboard replaces the selection. You can paste the same information from the Clipboard as many times as you wish.



Generally, text and data are stored on the Clipboard and the formatting for your text or data is not. However, this can vary from application to application.

Note Some standard applications have commands similar to Cut, Copy, and Paste, although they don't necessarily use the Windows Clipboard to transfer information.

Displaying the Clipboard

The Clipboard is always available when you are running Windows. Although you needn't run any file to use the Clipboard, you can run a file to display the Clipboard contents. To display the contents of the Clipboard

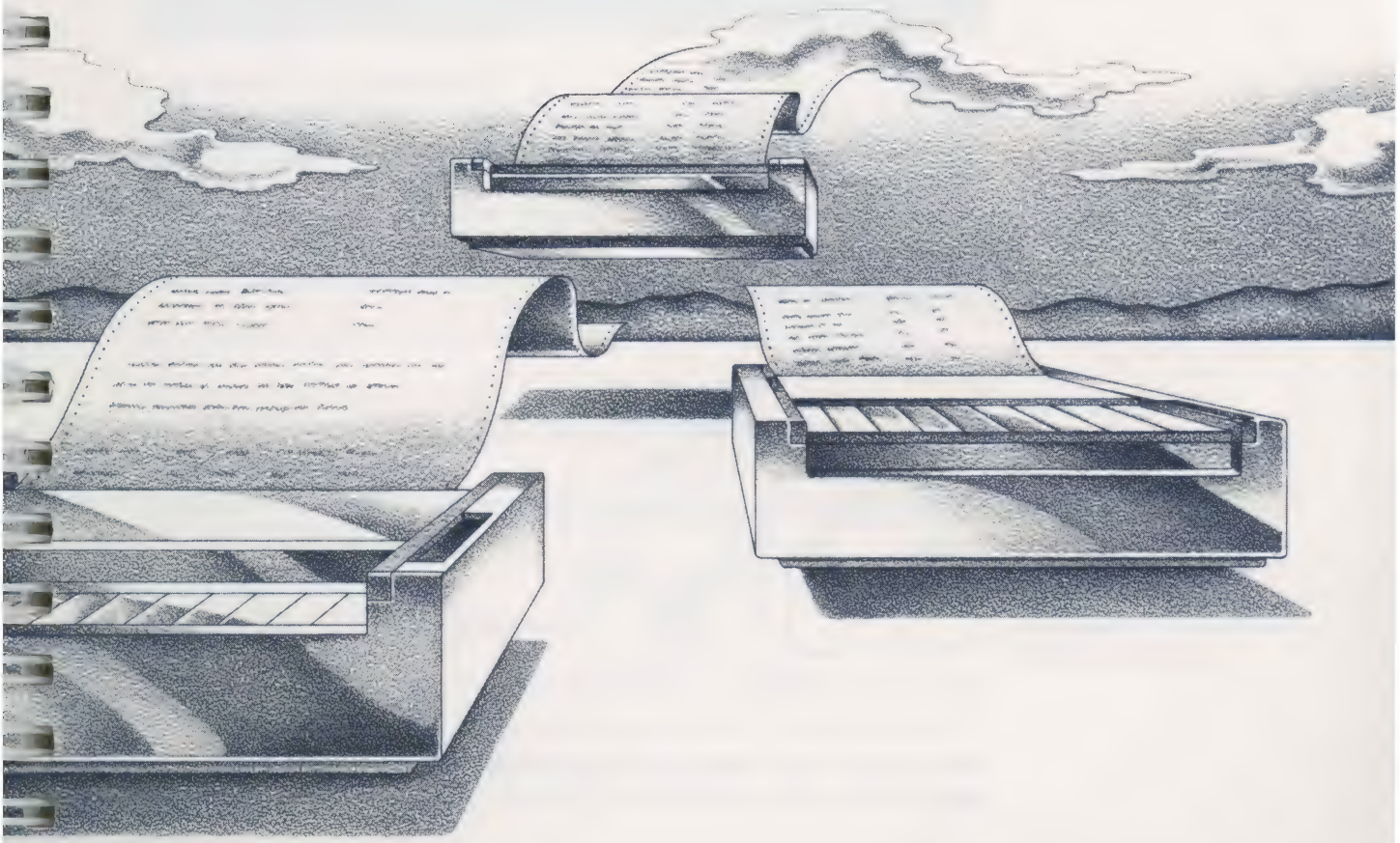
- Run CLIPBRD.EXE from the MS-DOS Executive Window.

7 Using the Control Panel

The Control Panel

You use the Control Panel to adjust such Windows system settings as date and time, printer assignments, and baud rates for communications devices. You can also specify screen colors.

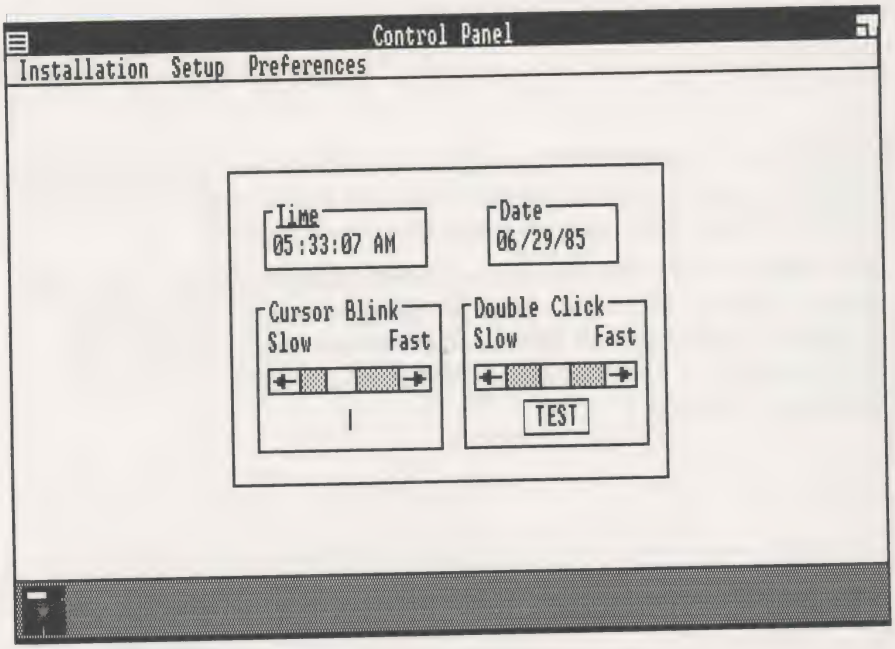
The Control Panel lets you adjust these settings quickly and easily without running the Setup program again. Many of the changes you make in the Control Panel are reflected in the WIN.INI file. (See Appendix A, "Customizing Your WIN.INI File," for information about WIN.INI.)



Running the Control Panel

To run the Control Panel

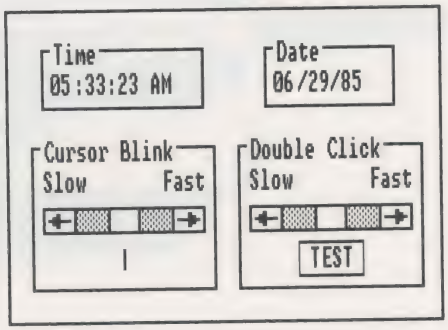
- Run CONTROL.EXE from the MS-DOS Executive window.



The Control Panel has four sections: Time, Date, Cursor Blink, and Double Click. There are three menus: Installation, Setup, and Preferences.

Changing the time

Changing the Time



The time you set from the Control Panel will be reflected in any applications (such as Clock or Calendar) that use the system time.

To change the time

1. Press the TAB key to move to the Time section.
2. Use the RIGHT and LEFT DIRECTION keys to highlight the hours or minutes you want to change.
3. Press the UP key to increase the number; press the DOWN key to decrease the number.

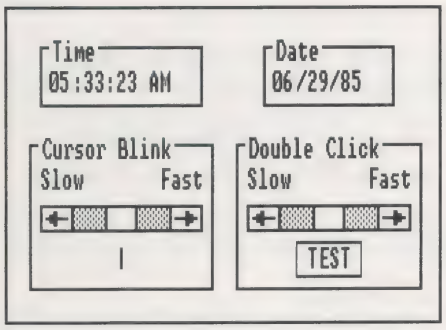
Changing the time with a mouse

To change the time with a mouse

1. Click the part of the time (for example, minutes) you want to change.
2. Click the up arrow to increase the number or the down arrow to decrease the number.

Changing the Date

Changing the date



You change the date the same way that you change the time:

1. Press the TAB key to move to the Date section.
2. Use the RIGHT and LEFT DIRECTION keys to highlight the number you want to change.
3. Press the UP key to increase the number; press the DOWN key to decrease the number.

Changing the date with a mouse

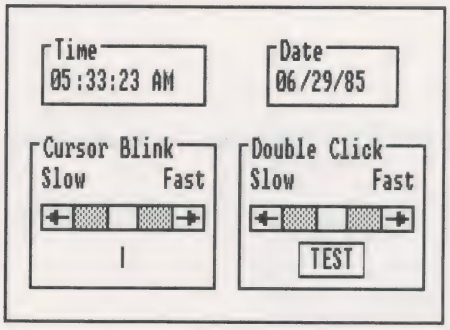
To change the date with a mouse

1. Click to highlight the number you want to change.
2. Click the up arrow to increase the number or the down arrow to decrease the number.

Changing the cursor blink rate

Changing the Cursor Blink Rate

Some applications have an underscore (cursor) or insertion point that blinks. The blink rate is the frequency at which the cursor flashes.



To change the cursor blink rate

1. Press the TAB key to go to the Cursor Blink section.
2. Press the LEFT or RIGHT key to scroll to the setting you want. The farther right you scroll, the faster the blink.

   The vertical cursor within the Cursor Blink section reflects the new setting. This rate will stay in effect until you change it again.

Changing the cursor blink rate with a mouse

To change the cursor blink rate with a mouse

- Click the right or left scroll arrow

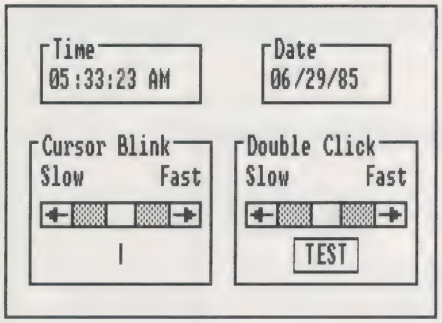
  or

- Drag the scroll box within the scroll bar.

Changing Mouse Double Click Rate

Note The following information about double click rates is for mouse users only.

When you double click the mouse button, Microsoft Windows interprets your action by the speed with which one click follows another. You can change the expected speed in the Double Click section.



Changing the mouse double click rate

To change the mouse double click rate

- Click the right or left scroll arrow in the Double Click section.

  or

- Drag the scroll box within the scroll bar.

The farther right you scroll, the faster Windows expects a double click.

You can test the new double click setting by double clicking the Test button. The button color will invert if Windows correctly perceived your pressing the mouse button as a double click.

Adding and Removing Printers

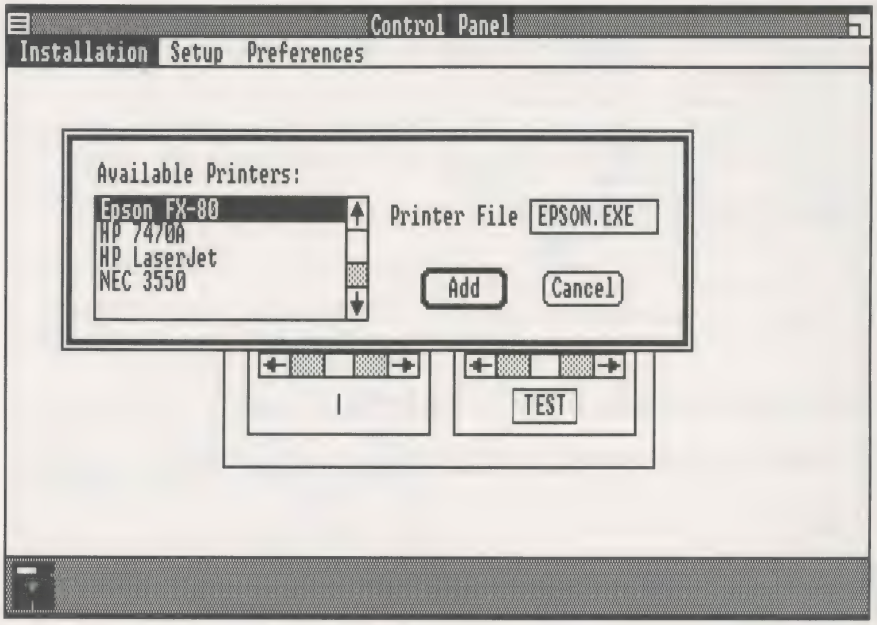
When you first set up Windows, you select the printer you'll use with your system. To change this selection, use the Add New Printer and Delete Printer commands from the Installation Menu.

Adding Printers

Adding a printer

To add a new printer to your system

1. Choose the Add New Printer command. Windows prompts you for the disk which contains printer driver files.
2. Insert the Utilities disk and choose Ok. A dialog box appears, listing the printers available on the disk.



3. Select the printer that you want from the list box. (The name of the corresponding printer driver file appears in the Printer File text box at the right.)
4. Choose the Add button.
5. A dialog box prompts you to enter the drive or directory you want to copy the printer file to. Drive A or the current directory will appear in the text box. If you want to change this, type the drive or directory you want in the text box. (The directory must already exist.)
6. Choose Ok.

Note If you do not specify a drive or directory, the file will be copied to the disk in drive B if you have a two-drive system. The file will be copied to the current directory if you have a hard disk system.

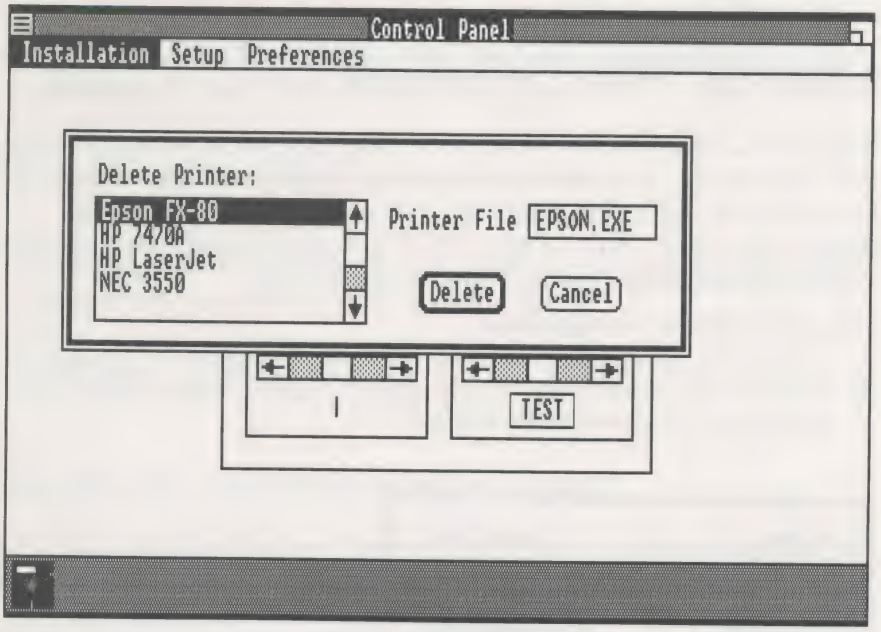
Whenever you add a new printer to your system, you must let Windows know which port the printer is connected to. See "Configuring Your System" later in this chapter for more information on this procedure.

Removing Printers

Deleting a printer

To remove a printer from your system, use the Delete Printer command from the Installation Menu.

1. Choose the Delete Printer command. A dialog box will list the printers you have set up.
2. Select the printer name you want to remove from the list box. The name of the corresponding printer driver file appears in the text box.
3. Choose the Delete button.



4. A dialog box prompts you for the location of the printer driver file. Type the name of the drive or directory and choose Ok. The Control Panel will delete the printer setting from the WIN.INI file and delete the printer file from your Windows directory.

Note If other printers use the printer file that appears in the Delete Printer dialog box, that printer file will not be deleted from the named directory; it will still be available to the other printers.

Adding and Removing Fonts

You use the Add New Font and Delete Font commands from the Installation Menu to modify the number of available font files. These commands work like Add New Printer and Delete Printer.

Configuring Your System

You use commands on the Setup Menu to change printer port assignments, set the system default printer and specify its output modes, and set up serial communications ports.

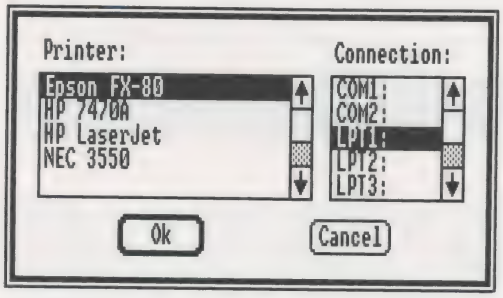
Setting Up Printer Connections

Windows needs to know which port your printer is connected to. You can use the Connections command to set or change the port for your printer(s). For example, if you decide to move your printer from port LPT1 to port LPT2, you need to use the Control Panel to change the printer connections setting.

Changing printer connections

To change printer connections

1. Choose the Connections command from the Setup Menu. You will see the Connections dialog box.



2. Select the printer you want to change from the Printer list box. The current port assignment for the selected printer appears to the right.
3. Select one of the ports.
4. Choose Ok.

Setting Up Printers

You can use the Printer command on the Setup Menu to specify a system default printer and set its output modes. The system default printer is the printer that applications designed for Windows will use. Printer output modes are printer-specific settings such as portrait (normal page orientation) vs. landscape (output oriented lengthwise on the page) or color for plotters. These options vary from printer to printer. This command is useful if you have several printers installed because Windows needs to know which printer you want to use.

Selecting a printer

To select a printer

1. Choose the Printer command from the Setup Menu. The Printer dialog box appears. The list box contains all the available printers and their port connections.
2. Select the printer name you want from the list box.
3. Choose the Ok button.

Choosing printer output mode

You will see another dialog box containing the mode settings for your printer. To choose another output mode

- Choose from the options for printer output or answer the questions in the dialog box.

Setting Up a Communications Port

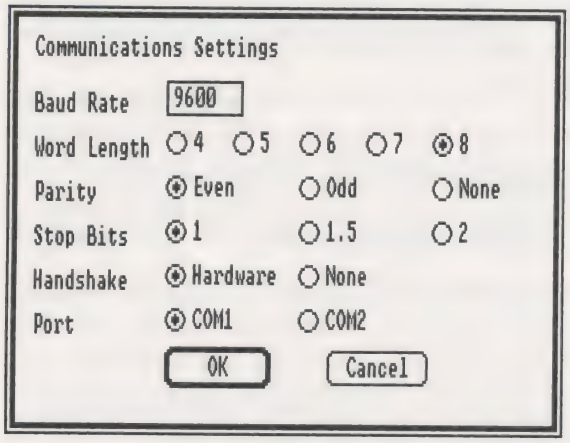
Use the Communications Port command to set up a serial communications port. (For example, you would want to do this to set up a communications device or a serial printer.) Communications Port settings include baud rate, stop bits, parity, word length, and the retry (print/send) option.

Note If you are setting up a serial printer, check the port settings to make sure they follow the serial communications instructions supplied by your printer manufacturer before you try to print.

Choosing a communications port

To choose a communications port

1. Choose the Communications Port command from the Setup Menu. A dialog box appears displaying the current serial ports available and their port settings.
2. Choose a port and the settings for that port will appear.



3. Choose any of the options.
4. Choose Ok.

Selecting Screen Colors

You use the Screen Colors command from the Preferences Menu to adjust the text and background colors on your screen. You can specify hue, brightness, and amount of color for

- Window background
- Window text
- Scroll bars
- Active (selected) title bar
- Inactive (unselected) title bar
- Title bar text
- Window frame (the thin border around the outside of the window)
- Menu bar
- Menu text
- Screen background (icon area)

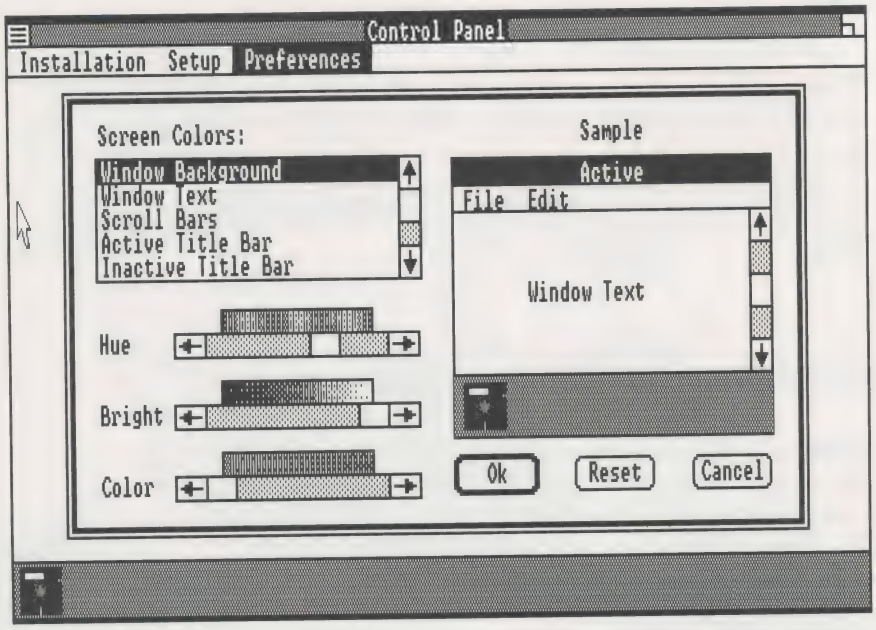
The Screen Colors command also lets you adjust the shades of gray used on the screen.

Note The IBM Color Graphics Adapter does not display color in the high resolution graphics mode (the IBM Enhanced Graphics Adapter has this ability).

Selecting screen colors

To select screen colors

1. Choose the Screen Colors command from the Preferences Menu. You will see the Screen Color dialog box.



2. In the list box, select the part of the screen or window you want to adjust the color for.
3. Move to the Hue scroll bar by using the TAB key or clicking with a mouse. Available colors appear in the color palette above the scroll bar. Scroll to the right or to the left to choose a color.

   Use the RIGHT and LEFT DIRECTION keys to change settings in small increments. To move across the scroll bar more quickly, use the PAGE UP or PAGE DOWN key. If you have a mouse, click the arrows or drag the scroll box.

   The "Sample" area simulates the window appearance.

4. Move to the Bright scroll bar. Scroll to the right to brighten the color (increase the amount of white). Scroll to the left to make the color darker.
5. Move to the Color scroll bar. Scroll to the right for a more vibrant, intense color. Scroll to the left for less intensity or saturation.

   When the Color setting is on the extreme left of the scroll bar, adjustments to the Hue and Bright scroll bars will only result in shades of gray and black and white.

The controls for Hue, Brightness, and Color are similar to those on a color TV; adjust the controls until you have the effect you want.

Note You need to run the Setup program again if you want to add or change graphics cards, install a mouse, or change the resolution of the graphics card you already set up. You cannot use the Control Panel to make these changes in your system configuration. See Chapter 1, "Getting Started," for information on running Setup.

Changing the Mouse Button

Changing the Mouse Button

Windows generally uses only the left mouse button. You can use the Mouse command from the Preferences Menu to switch the functionality from the left mouse button to the right mouse button (and vice versa).

To switch

1. Select the Mouse command from the Preferences Menu. You will see the dialog box which lets you switch the functionality of the mouse buttons. Set this option if you wish to switch from left to right.
2. Choose the Ok button.

Setting this option lets you use the right button to perform Windows tasks. You need set the option only once; it will remain set until you change it. For applications that normally use the right button for extended functionality, the left button will now perform these functions.

8 Using the Spooler

The Spooler

The Windows Spooler prints files. The Spooler window lists files in the order they will be printed. This listing is called a *print queue*.

Whenever you choose a Print command in a Windows application, the application creates a special print spool file and automatically starts the Spooler to print the file. When the Spooler is started, its icon appears in the icon area. The Spooler works in the background — you can go to another task or application while the spooler prints your work.

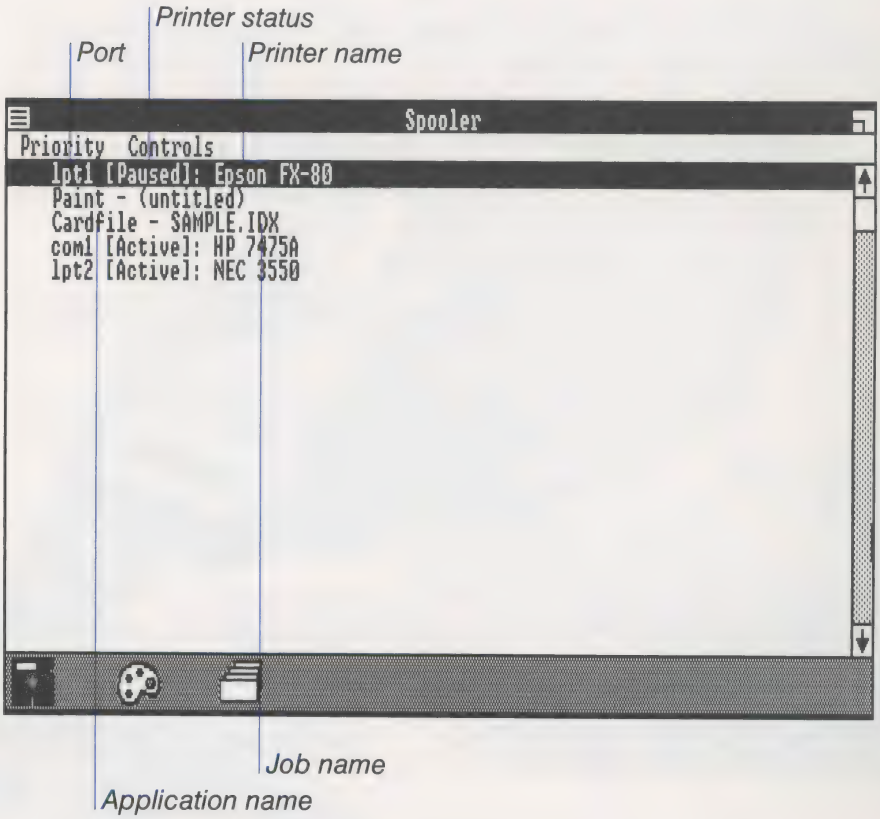
You can also use the Spooler window to look at the print queue and to interrupt or cancel a print job. The Spooler is used only for WIN applications. On a two-drive system, the Spooler resides on the Windows System Disk.

If you need information about setting up your printer, see the printer manual. Chapter 7, "Using the Control Panel," gives you details on adding or removing a printer and on specifying printer modes and options.

Viewing the print queue

To look at the print queue

- Expand the Spooler icon in the work area. You can do this by choosing the Move or Icon command from the System Menu, or by dragging the icon into the work area. See Chapter 4, "Techniques," for details on expanding icons.



The first file on the list is the one that is printing now. The Spooler works on one job at a time, in the order that they are listed. If the listing scrolls off the bottom of your screen, use the vertical scroll bar to see the entire list.

The Spooler Commands

You use the commands on the Priority Menu to specify how fast you want to print your work. You use the commands on the Control Menu to interrupt or cancel print jobs.

The Priority Menu

Use the Priority Menu commands to specify how fast you want to print your work. These commmands change the rate of data transfer from the Spooler to the printer ports.

Specifying how fast to print

- Choose the High command if you want the Spooler to print a job faster. This setting uses more of your computer's resources for printing. The system will slow down, and other applications you are running will be slower.
- Choose the Low command if you want the Spooler to print more slowly, and allow more of your computer's resources for other applications that you are working with.

  The check mark on the menu indicates the current setting.

The Control Menu

Use the Control Menu commands to temporarily halt or cancel a print job. Use the UP or DOWN DIRECTION key to highlight the job to be interrupted or cancelled. If you have a mouse, you can click on the filename to select it. See Chapter 4, "Techniques," for details on selecting.

To interrupt a print job

Interrupting a print job

1. In the Spooler window, select the filename of the job you want to interrupt.
2. Choose the Pause command to temporarily halt the printing.
3. Choose the Resume command when you are ready to continue printing the file.

To cancel a print job

Cancelling a print job

1. In the Spooler window, select the filename of the job you want to cancel.
2. Choose the Terminate command. The Terminate dialog box appears, asking you to confirm the cancellation.
3. Choose the Yes button.

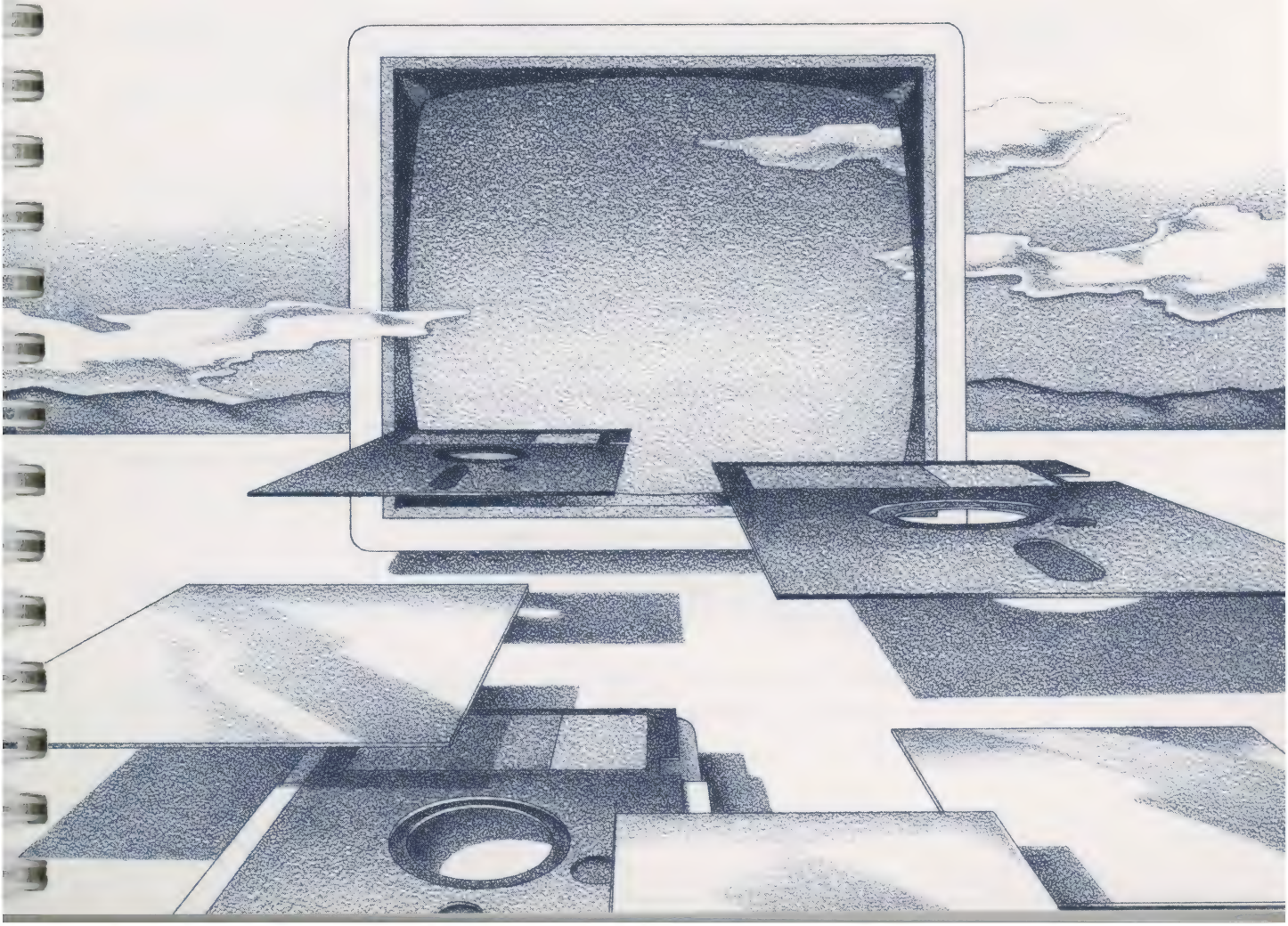
Warning If you terminate a job that is printing in graphics mode, you may need to reset your printer to ensure that the buffer is cleared.

Spooler Messages

The Spooler sometimes displays information about the status of your printing jobs. If the Spooler needs to display information, but the window or icon is not selected, the title bar or icon will flash. Select the Spooler's window or icon to display the message.

9 Techniques for Standard Applications

You can use Microsoft Windows to integrate and enhance the performance of both your applications and your computer. Windows makes working with applications faster, easier, and more efficient — even applications that were not designed specifically for Windows (referred to as *standard applications*). Popular standard applications that run under DOS — such as Lotus 1-2-3®, Microsoft Multiplan®, Microsoft Word, and Multimate — can run with Windows.



This chapter gives you information on

- Running standard applications from Windows
- How Windows displays standard applications
- Running multiple applications from Windows
- Techniques for moving between applications and for transferring information between applications
- Using PIF (program information) files to run standard applications as efficiently as possible

Running Standard Applications

Windows improves the performance of standard applications in several ways:

- You can run several applications simultaneously and switch from one to another without quitting any of them.
- If you have a hard disk or extended memory card, Windows can run more programs than will fit in memory at one time.
- You can transfer information from standard applications through the Clipboard. (For example, you can transfer a chart from Lotus 1-2-3 to Microsoft Paint.)

Note Applications that do not run under DOS will not run from Windows.

Running an application

You run standard applications the same way you run WIN applications:

1. Highlight the application filename in the MS-DOS Executive window.
2. Press the ENTER key.

Running an application with a mouse

To run an application with a mouse

- Double click the application filename in the MS-DOS Executive window.

Note Windows uses program information (PIF) files to determine the best way to run standard applications. PIF files for many popular applications are included on the Utilities disk. Make sure that you copy the PIF file(s) for your standard application to the application disk. If you have a hard disk, make sure that you copy the PIF file(s) to the directory that you will run the application from.

You can also run an application by selecting its PIF file. This will automatically load and run the application named in the PIF file.

For more information, see "Program Information Files" in this chapter.

How Windows Displays Standard Applications

Some standard applications run in a window; others take up the entire screen. How the application appears on the screen is determined by the amount of memory reserved for the program, the way the program uses system resources and hardware, and the way the program is configured.

Applications That Run in a Window

Applications that run in a window

Many standard applications can run in a window and share the screen with WIN programs. Some of these applications include:

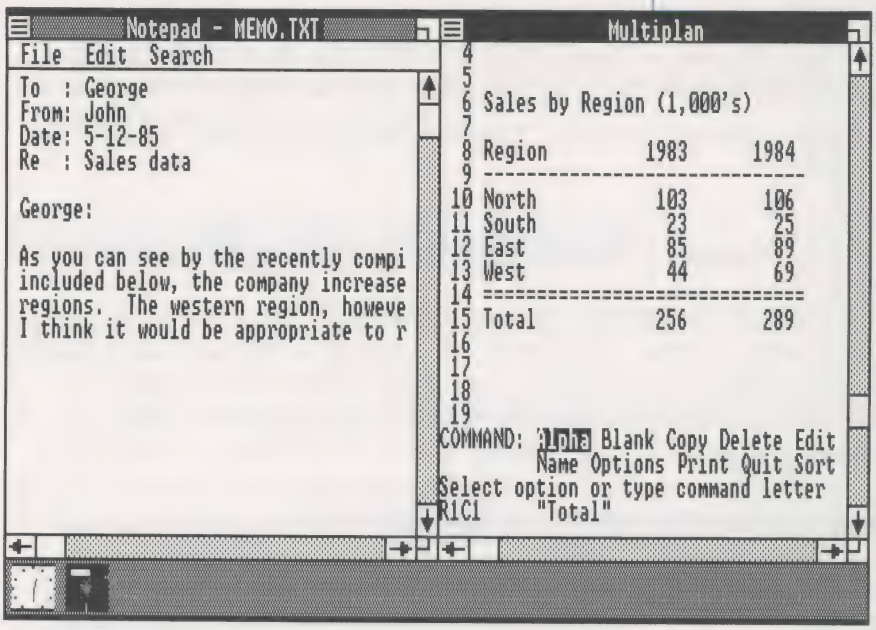
- IBM Writing Assistant
- IBM Filing Assistant
- IBM Planning Assistant
- IBM Reporting Assistant
- dBASE II®
- R:base 4000™
- DOS utilities, such as COMMAND.COM, DISKCOPY.COM, EDLIN.COM
- BASIC (BASIC.COM)
- DisplayWrite 3

DOS utility programs (e.g., CHKDSK.COM. DISKCOPY.COM) should be run from the MS-DOS Executive Window rather than COMMAND.COM.

Applications that you can install to run with an ANSI device driver (ANSI.SYS) or that have an option to run in a TopView™ window can usually run in a window.

Many applications besides those listed may share the screen with other applications. You can experiment to see which of your applications can run in a window.

This standard application is running in a window.



When you move or shrink a standard application that runs in a window, you will see an icon for the application, just as you would for a WIN application. The icon will be a plain rectangular icon, and will display the name of the application when you select it with ALT-TAB. If you have a mouse, the icon shows the application name when you press the SHIFT key and point to the icon.

Applications that use the entire screen

Applications That Use the Entire Screen

Some standard applications require exclusive use of the screen and cannot run in a window with other applications. This occurs when the application displays graphics on the screen or writes directly to the video buffer. You may also choose to give an application all memory that is available in the system. In either case, the application takes the entire screen, and Windows temporarily removes itself from the screen.

Even if your standard application needs the entire screen, you can switch between it and the Windows screen and other standard applications without quitting any of the applications. For details on moving from one application to another, see "Working With Standard Applications" in this chapter.

Special Applications

Special applications

Some applications load themselves and remain resident in the system (using the Terminate and Stay Resident system call). For the best performance, run these *special applications* before starting Windows. If you want to start a special application while Windows is running, change or create the PIF file for the application, making sure you choose the Directly Modifies Memory option.

You can also provide information about your program in the PIF section of WIN.INI. If you set the program equal to 1 (for example, MODE.COM = 1), Windows will recognize the program as a special application that directly modifies memory. For further details, see "Program Information Files" in this chapter. For details on changing your WIN.INI file, see Appendix A, "Customizing Your WIN.INI File."

You should install "pop-up" programs *before* you run Windows and activate them only while you are running a standard application that uses the entire screen. You may experience problems using some pop-up (or other Terminate and Stay Resident) programs since they trap or reset certain system calls. Since the Windows Desktop applications provide many of the features found in popular pop-up programs, you may want to use them instead.

Some applications trap all system calls, preventing you from switching to the Windows screen. If you find you cannot switch to Windows, try quitting the application with the application's quit or end command.

Running Multiple Applications

You can run as many applications as you like with Windows, up to the capacity of your system. Also, if you have a hard disk or extended memory card, Windows can run more standard applications than can fit in memory.

Windows allows you to start up and switch between standard applications without having to quit one before you go on to the next. For example, you can move easily from your spreadsheet program to your charting program to your word processing program; each time you switch, you can leave one application and pick up in another wherever you left off previously.

If you try to start a standard application and there is insufficient memory, Windows tries to share available memory by temporarily moving (or "swapping") another program to the hard disk or memory card. When you switch to the application that was swapped, Windows moves another program out and brings the selected program back into memory.

If you have an extended memory card, you can use a special program included on your Windows disk that allows you to set up the memory card as a disk drive so that it can be used as a swap area. For further information, see Appendix C, "Using Extended Memory for Standard Applications."

To run multiple applications most efficiently, run the largest application first. Or specify the size of the swap area in the WIN.INI file. See Appendix A, "Customizing Your WIN.INI File," for details.

If you try to run a standard application and no memory is available, Windows displays a message that says "Not enough memory to run." Quit some of the applications you are running and try again to run the program.

If you are using a two-drive system and want to keep your data files on separate disks, be sure that the correct data disk is in the drive when you switch programs.

Running Large Standard Applications

Occasionally, you may want to run a standard application that requires more memory than is available when Windows is running. Windows displays a message saying "Not enough memory to run."

In this case, close all WIN programs except the MS-DOS Executive. Then run the application. Windows "steps aside" and gives the application most of the available memory. A small amount of memory will be reserved for transferring information to the Clipboard. When you are finished using the application, you need to quit the application to return to Windows. When you quit the application, the Windows screen returns.

Closing Standard Applications

To close any application, use the application's quit or end command.

Some programs exit with information remaining on the screen so you can look at the information or copy it. If the application was running in a window, the application's name appears in the title bar with parentheses around it. You can then close the window by choosing the Close command from the System Menu. If the application was not running in a window, Windows displays a message that says "Press any key to continue." This allows you to look at the remaining information on the screen.

Working With Standard Applications

When you run a standard application with Windows, you can continue to use that application's commands and functions as you always have. Windows provides a convenient way for you to run several applications and to move from one application to another quickly and easily.

The procedures in this section describe how to move from standard applications to Windows and to other applications, and how to transfer information between applications.

Moving From Application to Application

Moving between applications

If your standard application runs in a window and is sharing the screen with other applications, you can use the same procedures described in Chapter 4, "Techniques," under "Selecting Windows and Icons."

- To go to the next window down or to the right, press ALT-TAB.
- If you have a mouse, point to the window (or icon) you want and click.

If your standard application does not run in a window, you use a technique very similar to the keyboard technique above. You go back to Windows first, then to the next application you want to switch to. You need to have started the application from Windows to return to Windows using this procedure.

Moving between applications and Windows

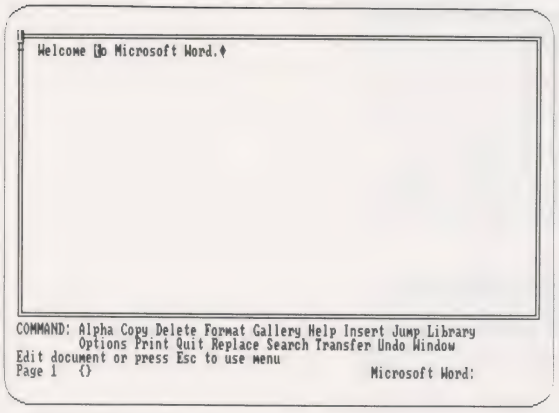
To move from a standard application to Windows, then to another application

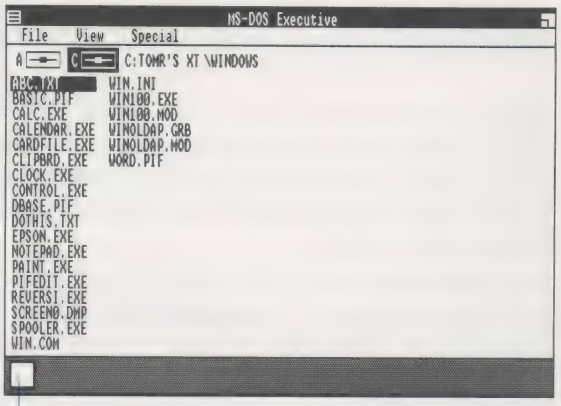
1. Press ALT-TAB to return to Windows.

   The Windows screen appears, with the MS-DOS Executive running. (If the MS-DOS Executive appears as an icon, move the icon into the work area.)

   The icon representing the application you just left appears at the bottom of the screen. Operation of this application is suspended until you go back to it.

Press ALT-TAB to go from your standard application back to Windows.


Welcome to Microsoft Word.
COMMAND: Alpha Copy Delete Format Gallery Help Insert Jump Library
Options Print Quit Replace Search Transfer Undo Window
Edit document or press Esc to use menu
Page 1
Microsoft Word:



The icon for the standard application appears in the icon area.

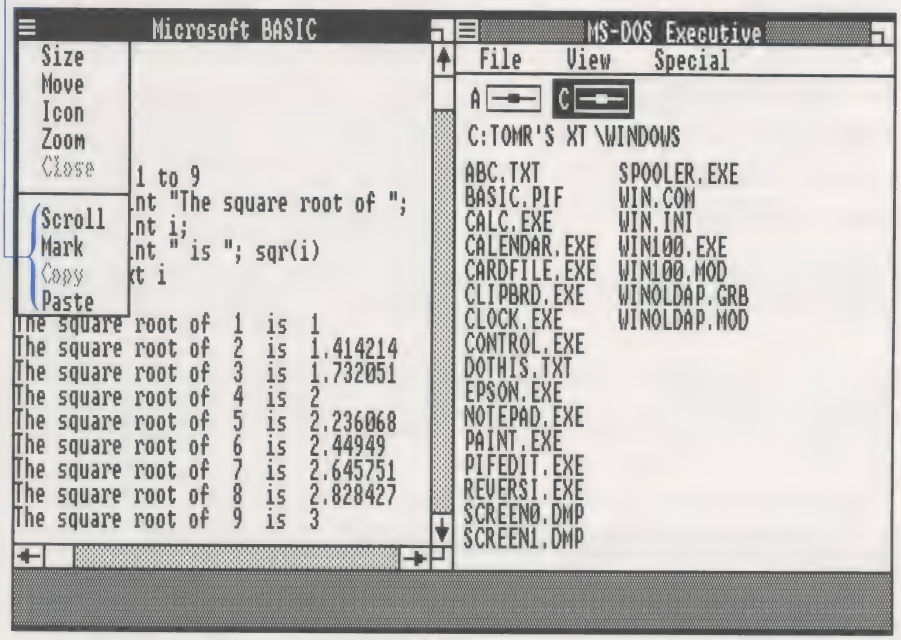
2. To switch back to an application that is already running, move the application's icon into the work area. You can either use the Move command from the System Menu, or drag the icon with the mouse.

If the application you switched to uses the entire screen, the Windows screen will disappear.

Scrolling the Window

If your standard application runs in a window, Windows adds four special commands to the System Menu.

These commands are added to the System Menu: Scroll, Mark, Copy, Paste.



The Scroll command

One of these, the Scroll command, can be used to scroll your standard application to parts of the application screen that won't fit in the window.

When you run a standard application in a window, you may not be able to see all the information, especially if the application is sharing the screen with several other windows. You can use the Scroll command to see the entire screenful of information.

The Scroll command is independent of commands your application may have for scrolling text or data within the application. Your standard application may have additional scrolling commands or keys for moving to other parts of a text file, for example. See the manual for your application for this information.

To scroll a window

1. Select the Scroll command from the System Menu.
2. Use the following keys to scroll in the desired direction:

To scroll	Press
Up one line	UP
Down one line	DOWN
Left one character	LEFT
Right one character	RIGHT
Up one screen	PAGE UP
Down one screen	PAGE DOWN
Left one screen	HOME
Right one screen	END

To quit scrolling

- Press ESC or ENTER.

To scroll with the mouse, you can use the scroll bars. See Chapter 4, "Techniques," for details.

You use the other System Menu commands — Mark, Copy, and Paste — for transferring information. See the next section for details.

Transferring Information

There are two ways to move and copy information between applications. You can transfer information from applications with the ALT-PRINTSCREEN keys. If your standard application runs in a window, you can also use the additional System Menu commands — Mark, Copy, and Paste.

Using ALT-PRINTSCREEN

To copy the screen from a standard application to the Clipboard, use the ALT-PRINTSCREEN keys.

1. Make sure the information you want to copy is on the screen.
2. Press the ALT-PRINTSCREEN keys.

This takes a "snapshot" of the screen. The information is now available on the Clipboard and can be transferred to WIN applications. For example, you can paste text screens to Notepad and graphics screens to Paint if you want to edit information.

Note Text is stored in its character (ASCII) representation.

Mark, Copy, and Paste

These commands are appended to the System Menu whenever you run a standard application that runs in a window. These commands use the Clipboard for storing information that you are transferring. See Chapter 6, "Using the Clipboard," for more information on how the Clipboard works.

Mark You use the Mark command to select data in the window so that you can copy it to the Clipboard.

Using the Mark command

1. Choose the Mark command from the System Menu.

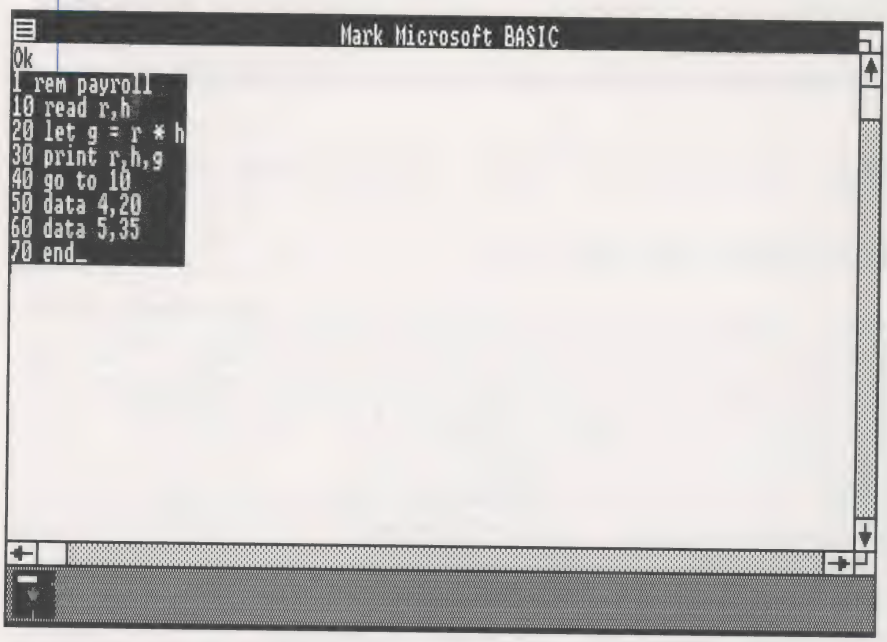
   A rectangular cursor will appear at the upper-left corner of the window.

2. Press the DIRECTION keys to move the cursor to the beginning of the area you wish to select. Press the SHIFT-DIRECTION keys to select the area.

   For example, to select a paragraph, move the cursor to the first character of the paragraph. Hold down the SHIFT key. Use the RIGHT key to go to the end of the line, then use the DOWN key to go to the last line of the paragraph. Release the SHIFT key.

3. To cancel the selection, press the ESC key.

Use the Mark command to select text.



Selecting with a mouse

To select with a mouse

1. Point to where you want to start selecting.
2. Press the mouse button.
3. Drag across the area of the screen you want to select.
4. Release the mouse button.

Copying information

Copy After you select text or graphics, you can use the Copy command to transfer it to the Clipboard. From there you can paste the information into another part of the same application, into a WIN application, or into another standard application running in a window.

1. Select the desired information.
2. Choose the Copy command from the System Menu.

   The selected information is copied to the Clipboard.

Text is copied to the Clipboard in its character (ASCII) representation. Each line is terminated with a carriage return/line feed.

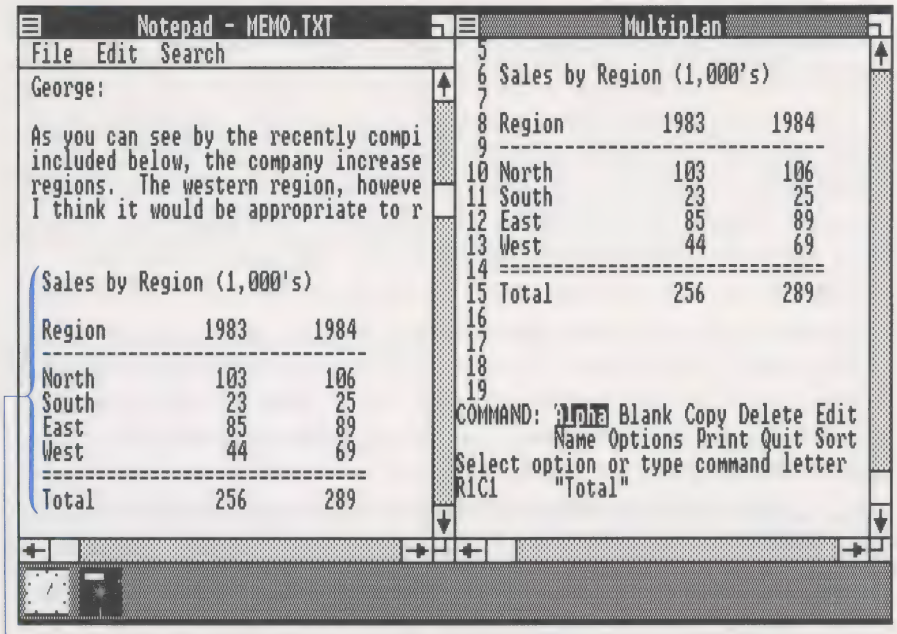
Pasting information

Paste You can use the Paste command to transfer compatible information from the Clipboard to an application. This includes data you may have copied from another section of the program.

Note You cannot paste graphics information into a standard application.

To paste to an application

1. Move to the place in the program where you wish to insert the information.
2. Select the Paste command from the System Menu.



This information was copied from Multiplan and pasted into Notepad.

Text is transferred in its character (ASCII) representation. This means that the data is pasted into your program just as if it had been typed directly from the keyboard.

PIF

Program Information Files

Windows uses program information, or PIF, files (which have the extension .PIF) to determine how to run standard applications. A number of preconfigured PIF files for popular applications are provided on your Utilities disk. You may also find that your application disk includes a PIF file.

A PIF file is not required to run a standard application. If you run an application without a PIF file, Windows will use a set of default program characteristics (see "Default Settings" at the end of this chapter). However, PIF files allow you to run the application in the most efficient way.

If you run an application by selecting the filename of the program (an .EXE, .COM, or .BAT file), then the PIF file must have the same filename, except that the extension is .PIF. For example, if you are using dBASE II, the associated PIF file would be DBASE.PIF.

If you run the application by selecting its PIF file, Windows will automatically run the program name entered in the PIF file. This allows you to have several different PIF files with different parameters for the same application. For example, you might have two files, MPSMALL.PIF and MPLARGE.PIF, for Multiplan. The first might have a required memory of 128KB, and the second 256KB.

Copy the appropriate PIF file to your standard application's startup disk or directory. Or, if you prefer, you can copy the PIF file to the Windows startup directory or to another directory in your PATH, so that Windows can find it when you run the application.

Some applications may have more than one .EXE or .COM file on their disk. You should have a separate PIF file for each one.

Some of the PIF files provided on the Utilities disk may have different names than the applications they correspond to; this is because in some cases, different applications use the same filename to start up. You can use the PIF editor to determine which application the PIF file was designed for. Then copy it to the appropriate drive and directory, and rename the file.

You can also provide PIF information in the WIN.INI file. For example, PIF settings for DOS utilities are set here. (See Appendix A, "Customizing Your WIN.INI File," for details.)

When to Change PIF Files

When to change PIF files

Generally, you will not have to change the information in your PIF files. However, if you want to change any of the parameters for a particular program, editing your PIF file can tailor the performance characteristics of your program. For example, to give Lotus 1-2-3 the maximum amount of available memory in your machine, you can change the amount in the KB Required option to 640KB and select None from the screen exchange options. Close all other applications except for the MS-DOS Executive, then run the program.

Some applications provide an option to install and run the program with an ANSI device driver (ANSI.SYS). If the program offers this option, you can usually run it in a window. For example, Microsoft Multiplan provides this option. Since the application can now run in a window, you must alter the PIF file. You should deselect the Directly Modifies Screen option. (Do this for all related .COM or .EXE files included in the application.)

If you run an application and it does not load properly or is not operating as expected, check your PIF file settings. You may need to increase the application's memory requirements. If you still have difficulty, verify that the program runs under DOS.

Using the PIF Editor

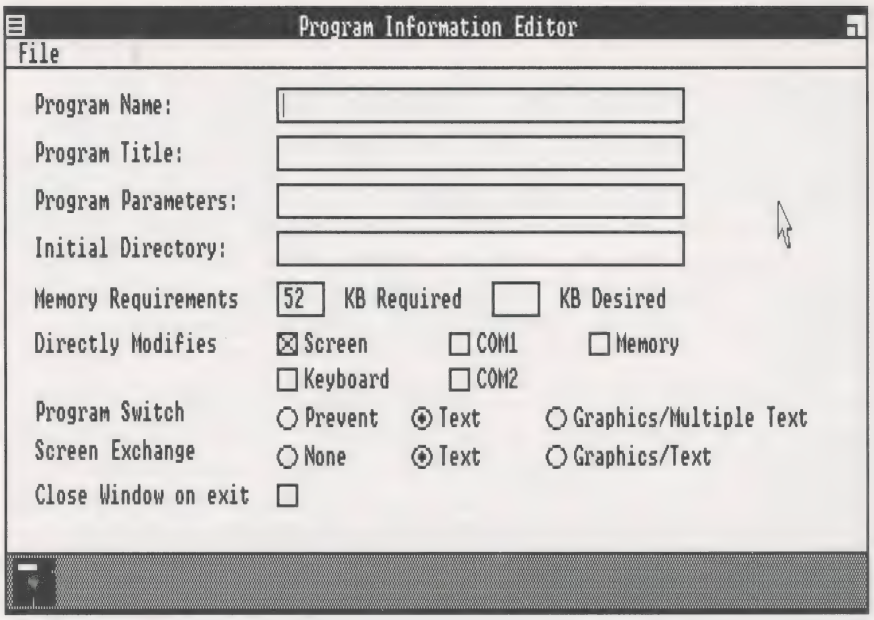
You can use the PIF editor to create or edit a PIF file. On a two-drive system, the PIF Editor resides on the Utilities disk. For example, you might want to change the program settings to increase the amount of memory available to the application or to set its initial directory.

Note The About command on the PIF editor System Menu displays a dialog with a help listbox. To use it, select a topic, then choose the Help button.

Creating a PIF file

To create a new PIF file

1. Run the PIFEDIT.EXE application from the MS-DOS Executive window to start the PIF editor.



2. Type the application's filename in the Program Name text box. Include the original extension (.EXE, .COM, or .BAT).
3. Select the options or values that apply to the program. (See the next section, "PIF File Options," for more information.)
4. Choose the Save command from the File Menu to save the new PIF file.

To create another PIF file, select New from the File Menu to reset the PIF editor screen.

Editing PIF files

To edit an existing PIF file

1. Run the PIFEDIT.EXE application from the MS-DOS Executive window to start the PIF editor.
2. Choose the Open command from the File Menu.
3. Type the name of the PIF file in the text box.
4. Choose the Open button.
5. Change the options.
6. Choose the Save command from the File Menu to save your changes.

PIF File Options

The following information describes the entries in a PIF editor window.

About the Program There are four entries for information about your application program.

About the program

- Program Name. Type the application's pathname, including the filename extension—for example, A:DBASE.COM.
- Program Title. Type a descriptive name that will appear when you select the program's icon (and in the window's title bar if the program can run in a window)—for example, *IBM Writing Assistant*.
- Program Parameters. Type any parameters your program might need. These would be the same parameters you would add next to the application's filename when you start the program. For example, to run Microsoft Word in text mode, you would type */C*.

  Type *?* if you want Windows to prompt you for parameters. The prompt will appear in the MS-DOS Executive window when you try to run or load an application. Parameters can be filenames, letters, numbers, or any type of information up to 62 characters.

  If your application requires no parameters, or if you are uncertain, leave this option blank.

  Redirected I/O and piping are not supported.
- Initial Directory. Type the drive and directory you want Windows to go to when the application is started. This is usually the location of the application's data files.

Memory Requirements These two items describe the memory needed by your application.

Memory Requirements

- KB Required. Type the minimum amount of memory required in kilobytes (KB) by your application. Check the system requirements of your application. If you don't know how much is required, leave the default setting of 52KB.

  If Windows cannot provide the specified amount of memory, and if no applications are running other than the MS-DOS Executive, Windows will reduce its space requirements so that the program can have room to operate. To return to Windows, quit the application.

- KB Desired. Type the maximum amount of memory your program can use. Some applications run more efficiently if more than minimal memory is provided.

  If you leave this entry blank or type zero, Windows will allocate all available memory to the application.

Note Running some utility programs that check available memory may not provide correct results when running from Windows. For example, CHKDSK returns the PIF Memory Required setting for its "bytes free" message. "Bytes total memory" will vary depending on when it is loaded, since CHKDSK determines memory available starting at CHKDSK's present location in memory.

Directly Modifies

Directly Modifies In the following group, select any options that apply to your application. Many applications use system resources in ways that cannot be shared with other programs.

- Screen. Select this box if the application writes directly to the screen buffer (video memory). All existing applications that display graphics are in this category. Such applications cannot be run in a window. Selecting this option will give the application exclusive access to the screen. If you are uncertain, select this option.
- Keyboard. Select this box if your application accesses the keyboard buffer. The keyboard buffer is the area where keystrokes are saved until they are processed.

  Selecting this option prevents the application from running in a window or switching back to Windows with ALT-TAB. If you are uncertain, do not select this option.
- COM1. Select this box if your application accesses serial communications port 1 (COM1). If you select this box, Windows cannot run any other application using COM1 until you quit the first application. This prevents two applications from trying to access the same communications port at the same time.

  Selecting this option also prevents the application from being swapped to disk. Some programs must remain in memory at all times. Generally, you need select this option only if you are running a communications application.
- COM2. Select this box if your application accesses serial communications port 2 (COM2). If you select this box, Windows cannot run any other application using COM2 until you quit the first application. This prevents two applications from trying to access the same communications port at the same time.

Selecting this option also prevents the application from being swapped to disk. Some programs must remain in memory at all times. Generally, you need select this option only if you are running a communications application.

- Memory. Select this box if your application loads by a Terminate and Stay Resident system call (e.g., Sidekick, Spotlight, Bellsoft Pop-Ups). These programs generally load and remain in memory, and are activated while other applications are running. If you are uncertain, do not select this box.

Program Switch If your application requires exclusive use of the screen, the following options determine whether you can switch back to Windows using ALT-TAB. If you are uncertain which option to choose, choose Text.

Program Switch

- Prevent. Select this option to conserve memory for the application, or if you find that Windows does not switch correctly. If you select this option, you must quit the application to return to Windows.
- Text. Select this option if your application works in text mode only, or if it runs in text and graphics modes and you want to conserve memory. Windows will reserve 4K to save the screen.

  If you select this option, you will be able to switch back to Windows only when the application is in text mode. If the application is in graphics mode, you must exit the program to return to Windows; Windows will beep when you press the ALT-TAB keys.
- Graphics/Multiple Text. Select this option if your application works in graphics mode. If you select this option, Windows allocates extra memory (16-36K) for you to switch back to Windows when the application is in text or graphics mode.

Due to extensive memory requirements, program switching is not supported for applications using IBM EGA high-resolution color modes.

Screen Exchange

Screen Exchange These options let you specify the kind of data exchange between applications that require exclusive access to the screen and the Clipboard. As described in the section "Transferring Information," you press ALT-PRINTSCREEN to put "snapshots" of the screen into the Clipboard. This requires Windows to reserve memory to save the screen image. Text screens generally do not require much memory (2K). However, graphics screens can require up to 32K of memory. You should select options with this in mind. If you are uncertain, choose Text.

- None. Select this option to prevent screen exchange and conserve memory.
- Text. Select this option to allocate memory to take "snapshots" of text screens. If your application runs in a window, select the Text option.
- Graphics/Text. Select this option to allocate memory to take "snapshots" of text and graphics screens.

Due to extensive memory requirements, screen exchange is not supported for applications using IBM EGA high-resolution color modes.

Window Closure

Close Window on Exit This option closes the standard application window when you exit the program.

Default settings

Default Settings

If you run an application and Windows cannot find a PIF file, Windows assumes the following settings:

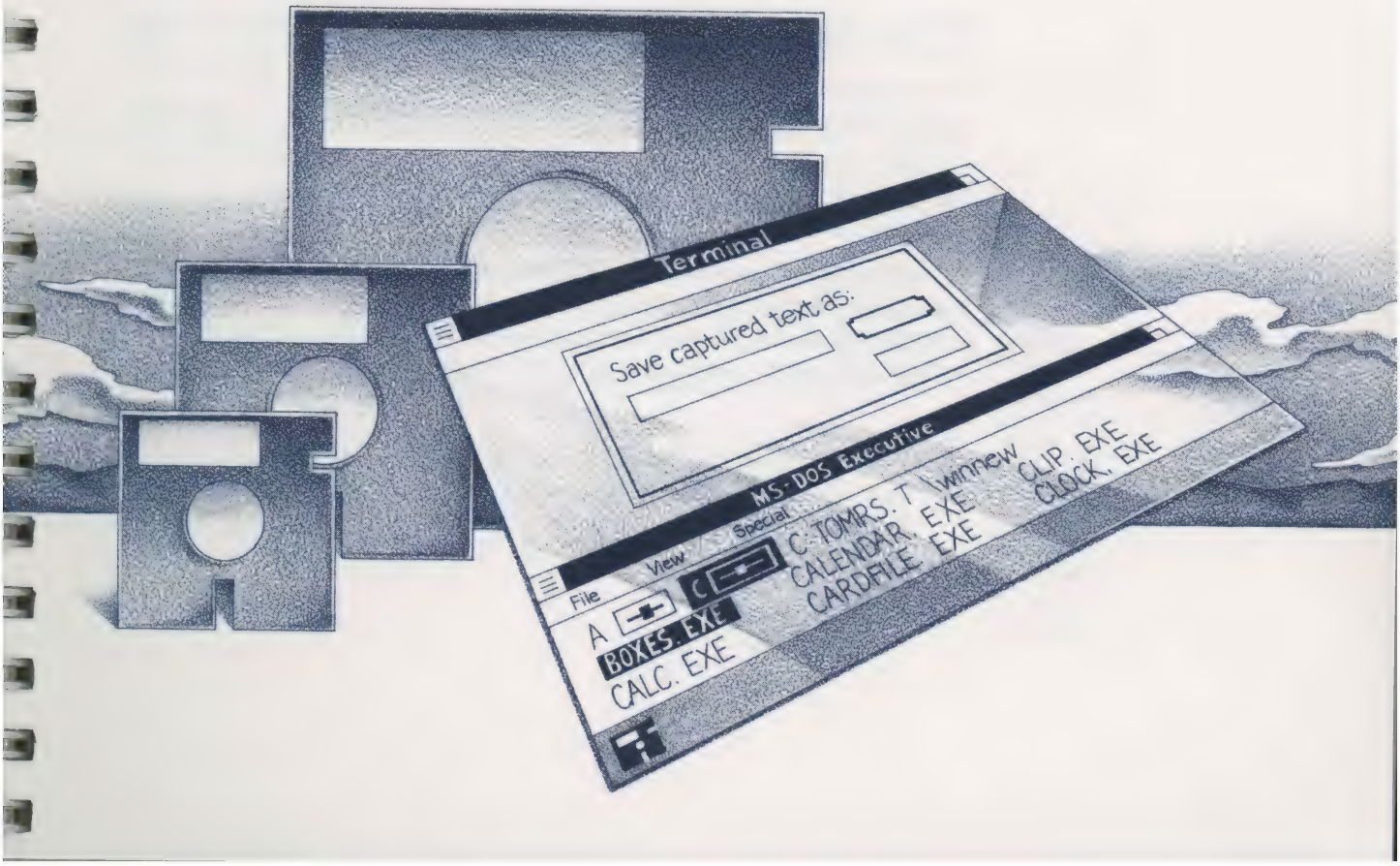
- Program Title: Ignored
- Initial Directory: Ignored
- Memory Required: 52KB
- Memory Desired: All available memory
- Directly Modifies: Screen
- Program Switch: Prevent
- Screen Exchange: Text

10 Commands

This chapter describes the commands you will use most often when working with Windows. The command summaries describe the function of

- System Menu commands
- MS-DOS Executive menus and commands
- Control Panel menus and commands

For details on procedures for these commands, see Chapter 4, "Techniques," Chapter 5, "Using the MS-DOS Executive," and Chapter 7, "Using the Control Panel."



The System Menu

The System Menu

The System Menu is common to all WIN applications and contains commands for manipulating the windows themselves.

Note Your application may append additional commands to the System Menu. See your application manual for details on these commands. Chapter 9, "Techniques for Standard Applications," contains information on standard commands that an application might append.

Size The Size command lets you change the size of a window.

If you have a mouse, you can also change the size of a window with the size box that appears in the corner of some application windows.

Move The Move command lets you move a window to another position on the screen. You can also use the Move command to expand icons or shrink windows.

Icon The Icon command shrinks the selected window into an icon and places the icon in the icon area.

The Icon command also expands a selected icon into a window.

Zoom The Zoom command expands the selected window to full screen. Choosing this command again dezooms the window — that is, returns it to the original size and position.

Close The Close command closes the application running in the selected window and removes the program from memory. To use the program again, you run it from the MS-DOS Executive window.

About The About command displays information about the application running in the active window. For example, the About command on the MS-DOS Executive System Menu displays the amount of space currently available to the system.

The MS-DOS Executive

The MS-DOS Executive window is run automatically when you start Windows. You need to use the MS-DOS Executive commands whenever you want to run an application, end a Windows session, or manage your files. Refer to Chapter 5, "Using the MS-DOS Executive," for more detailed information.

The File Menu

Run The Run command runs an application or a program you have written. Use the Run command when you need to provide additional information, such as a pathname or volume name, for a program in order to run it.

Load The Load command runs an application as an icon in the icon area, instead of automatically running the application in a window.

Copy The Copy command copies a file to a different directory or disk, or to a different filename in the same directory.

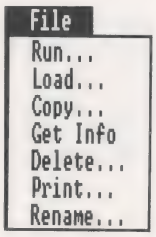
Get Info The Get Info command displays the selected file's name and extension, its size in bytes, and the date and time the file was created or most recently changed.

Delete The Delete command deletes the selected file.

Print The Print command prints the selected file or directory listing on your printer.

Rename The Rename command lets you change the name of a selected file.

The File Menu



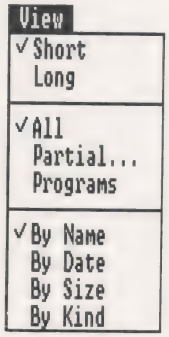
The View Menu

The View Menu commands let you display a directory listing in a variety of styles. The active commands are indicated by checkmarks. You can select one style characteristic from each group.

Short The default. Displays a directory listing horizontally, by filename only.

Long The Long command displays a directory listing in one long column, with name, extension, size in bytes, and date and time last changed for each file listed. The information by which the files are sorted (i.e. name, date, size, or kind) appears in boldface.

The View Menu



All The default. Specifies that all the files in a directory be listed.

Partial The Partial command lets you specify which files should appear in a directory listing.

Programs The Programs command displays a directory listing of program files—these files have .EXE, .COM, and .BAT extensions.

By Name The default. Sorts a directory alphabetically by filename.

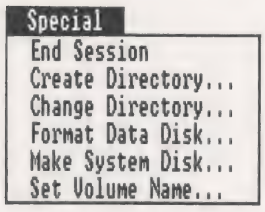
By Date The By Date command sorts a directory by the date and time each file was created or most recently changed, listing the most recent first.

By Size The By Size command sorts a directory listing according to each file's size in bytes, from largest to smallest.

By Kind The By Kind command sorts a directory listing alphabetically by filename extension. Files with the same extension are sorted alphabetically by name.

The Special Menu

The Special Menu



End Session The End Session command ends your Windows session. You do not need to shrink the windows that are expanded or close the applications that are running before you choose the End Session command.

Create Directory The Create Directory command lets you create a new directory.

Change Directory The Change Directory command lets you change directories.

To change directories with a mouse, double click the section of the pathname (near the top of the MS-DOS Executive window) that you want to go to.

Format Data Disk The Format Data Disk command lets you format a data disk from the MS-DOS Executive window.

Make System Disk The Make System Disk command lets you create a bootable disk (containing the MS-DOS system files) from the MS-DOS Executive window.

Set Volume Name The Set Volume Name command lets you give a disk a descriptive name for identifying its contents.

The Control Panel

The Control Panel controls some system settings. Changes to the Control Panel are reflected in the WIN.INI file (described in Appendix A, "Customizing Your WIN.INI File").

See Chapter 7, "Using the Control Panel," for more detailed information.

The Installation Menu

The Installation Menu commands let you add or remove a printer from your system without rerunning the Setup program.

Add New Printer The Add New Printer command adds a printer file to the disk and adds a printer file name from your Utilities disk to the WIN.INI file.

Delete Printer The Delete Printer command removes a printer you have already set up.

Add New Font The Add New Font command adds a font file to the disk and adds a font file name from your utilities disk to the WIN.INI file.

Delete Font The Delete Font command removes a font you have already set up.

The Installation Menu

The Setup Menu

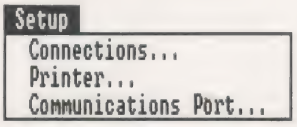
The Setup Menu commands let you change printer port connections, serial communications ports, and the default printer and printer modes.

Connections The Connections command changes the printer port.

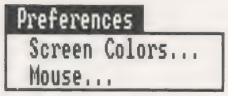
Printer The Printer command lets you specify a default printer. This command also displays dialog boxes for additional information a printer might require (type of paper, for example).

Communications Port The Communications Port command lets you specify a serial communications port and select parameters, such as baud rate, word length, parity, and stop bits.

The Setup Menu



The Preferences Menu



The Preferences Menu

The Preferences Menu commands let you control screen colors.

Screen Colors The Screen Colors command lets you specify color adjustments to your screen.

Mouse The Mouse command lets you switch functionality between the left and right mouse buttons.

Appendix A
Customizing Your WIN.INI File

Your WIN.INI file contains settings for many Microsoft Windows features and WIN applications. Windows checks the WIN.INI file and uses the settings it finds there every time you start Windows.

Note You'll rarely need to change your WIN.INI file; the instructions in this chapter are provided primarily for special system customization. The settings in your WIN.INI file may differ from those shown here.

You may want to print a copy of the WIN.INI file before you make direct changes to it. Use the Print command from the MS-DOS Executive window.

Direct changes to WIN.INI do not take effect until Windows is restarted. To have the changes effective immediately, quit Windows and start again.

WIN.INI is divided into sections that appear in the following format.

[*section name*]
keyword1=*setting1 setting2* ...
keyword2=*setting1 setting2* ...

Changing WIN.INI settings

To change WIN.INI settings

1. Open WIN.INI from Notepad.
2. Locate the settings you want to change and edit them.
3. Save WIN.INI.

Note You can also edit WIN.INI from a word processing application. When you save WIN.INI, be sure to save it as an ASCII text file (unformatted). Windows will open, but may not be able to properly read a formatted text file.

Settings in [Extensions]

Many applications supply a filename extension to the data and text files you create. (For example, Cardfile appends the extension .CRD to the files you create.) Windows puts this information in the WIN.INI file.

This makes it possible for you to run an application and open a data or text file in one step. To do this, you simply run the file.

A typical list of settings in [extensions] might be

```
[extensions]
    crd=cardfile.exe ^.crd
    cal=calendar.exe ^.cal
    trm=terminal.exe ^.trm
    txt=notepad.exe ^.txt
    pif=pifedit.exe ^.pif
```

If you wish, you can associate other filename extensions with a particular application.

Settings in [Windows]

The [windows] section of WIN.INI contains settings for

- Double click speed
- Cursor blink rate
- System default printer
- Applications loading automatically

Windows automatically modifies blink rate and double click speed in WIN.INI any time you change these settings in the Control Panel window. You will find it easier to change these settings in Control Panel, rather than through WIN.INI. See Chapter 7, "Using the Control Panel," for more information.

The settings for a typical [windows] section might be

```
DoubleClickSpeed=500
CursorBlinkRate=450
Device=Epson FX-80,epson,LPT1:
```

The numbers that follow the equal sign in the DoubleClickSpeed

and CursorBlinkRate settings are read by Windows as milliseconds, and can range from 0 to 65535. The higher the number, the faster the rate. The device entry indicates the default printer (or plotter), the device's printer filename, and the device's default port. The fonts entry indicates the default font file. Add additional font files by adding a space followed by the filename.

Starting Applications Automatically

Windows runs the MS-DOS Executive application automatically when you start. You can have Windows start other applications automatically by putting a *Load=* entry in the [windows] section.

For example, the setting

Load=clock control clipbrd

runs the Clock, the Control Panel, and the Clipboard (in addition to the MS-DOS Executive) as icons whenever you start a Windows session. Later, you can delete any of these from the Load=line and add others instead.

Adding applications to the Load=line

1. Type the filenames of the applications you want (these are applications whose extensions on disk are either .EXE, .COM, or .BAT). Filenames can be up to eight characters in length.
2. Be sure to include a space between the filenames.
3. If the filename that follows the equal sign in the Load setting does not represent an application, you must also include the file's extension.

   For example, if you have a Notepad text file of on-going activities that you want to be loaded for updating at the beginning of every Windows session, you need to put the filename with extension .TXT into the Load setting:

   Load=ongoing.txt

When you provide only a filename in the Load=line, Windows searches the current drive and directory. You may need to specify a pathname. Use the form

d: directory filename

d: is the drive name of the disk drive that contains the application; *directory* is the name of the directory that contains the application; and *filename* is the application filename.

Settings in [Devices]

This section lists your system's output (printing) devices, and their printer files and port connections. The settings in [devices] are set when you run the Setup program, and can be reset with the Control Panel.

After you run Setup, the initial settings could look like this:

```
[devices]
    EPSON FX-80 = epson,LPT1:
    HP 7470A = plotters,COM1:
    NEC 3550 = nec3550,None
```

where the left side represents the printer name, and the right side represents the device's printer driver file and the device's port (if one is assigned).

Settings in [Colors]

These settings reflect the color settings of various parts of the Windows screen. The default settings are

```
[colors]
    Window = 255 255 255
    WindowText = 00 00 00
    Menu = 255 255 255
    MenuText = 00 00 00
    WindowFrame = 00 00 00
    TitleText = 255 255 255
    ActiveTitle = 00 00 00
    InactiveTitle = 128 128 128
    Scrollbar = 192 192 192
    Background = 128 128 128
```

The numbers on the right represent RGB settings (Red,Green,Blue) from 0 to 255. 00 represents no color (black), while 255 represents fully saturated color.

Note You can use the Control Panel to make changes to this section.

Settings in [Ports]

This section of WIN.INI lists the ports available for your system. A typical port setting might look like this:

```
[ports]
    LPT1:=
    LPT2:=
    COM1:=9600,n,8,1,p
    COM2:=
```

where the values to the right of the "COM1:" entry represent baud rate, parity, word length, stop bits, and the retry (print/send) option, in that order. See your DOS manual for an explanation of these options.

This information is written to WIN.INI when you run Setup. You can also change this setting with the Control Panel.

Settings in [Pif]

You can create a program information entry in WIN.INI for your standard applications that can run in a window.

Creating a [pif] entry

1. Type *[pif]* on the first line. This indicates that the lines in the section contain program information.
2. On the next line, type the name of the program, followed by an equal sign, then the amount of memory (K) required to run the application.

The initial setting might look like this:

```
[pif]
    command.com=32
    chkdsk.com=52
    edlin.com=32
```

You can find the memory requirements for your application in the application manual.

Once you create a [pif] entry for a program, the following default settings are assumed:

- Program Title: Filename without extension
- Initial Directory: Ignored
- Parameters: Ignored
- Memory Required: Specified above to the right of the equal sign
- Memory Desired: Same as memory required
- Screen Exchange: Ignored
- Program Switch: Ignored
- Directly Modifies: None

The PIF section also lists the information that Windows uses to swap programs to disk (see Chapter 9, "Techniques for Standard Applications," for more information). The swap area is used only to swap applications that cannot run in a Window. Two settings, SwapDisk and SwapSize, determine where Windows swaps an application and what the minimum swap space should be.

If SwapDisk=? then Windows will attempt to swap to the first fixed disk on the system. This is the default setting. If SwapDisk is set equal to a drive letter, Windows will swap to the drive. To disable swapping altogether, set SwapDisk=0.

Note Do not set a floppy disk drive as the swap disk.

Windows allocates the amount of memory based on the first application that is swapped. You can achieve best performance by running the largest program first. However, if you want to reserve a minimum amount of memory as the swap area, you can change the SwapSize setting. If SwapSize=0 (the default setting), Windows will set the swap size to the size of the first swapable application run. To set a minimum swap area, change the number to the preferred size in kilobytes. You should take into account the program size, space for screen exchange, space for screen switching, and a 2K overhead for saving information about the application's current state. See Chapter 9,"Techniques for Standard Applications," for details on these settings and on creating and using PIF files and applications.

Appendix B
System Messages

This appendix describes the messages that may appear in the middle of your window or MS-DOS Executive screen.

Many of the messages appear in dialog boxes with an Ok and a Cancel button. Choose Ok to make the dialog box and the message disappear before you proceed. Some dialog boxes include a Retry button. Choose this if you want to try the operation again.

Windows Messages

Cannot read from device *device*

- *Windows is unable to read from the specified DOS device.*
  The specified device was not available for input. Be sure the device is properly set up (and if appropriate, turned on). Choose Retry to try the operation again, or Cancel to end the operation. Check your DOS manual for further information about device names and errors.

Cannot read from drive *d*

- *There is no disk in the specified drive.*
- *The disk drive door may be open or the disk may not be inserted properly (if a floppy disk drive is specified).*
- *Windows could not read the disk in the drive you specified. The disk may be defective, damaged, or unformatted. (See your DOS manual for details about disk errors.)*
  Choose Retry to try the operation again. If a floppy drive is specified, be sure the disk is properly inserted. If you continue to receive this message, choose Cancel. You may want to run the DOS CHKDSK program to check the disk.

Cannot write to device *device*

- *Windows is unable to write to the specified DOS device.*
  The specified device was not available for output. Be sure the device is properly set up (and if appropriate, turned on). Choose Retry to try the operation again, or Cancel to end the operation. Check your DOS manual for further information about device names and errors.

Cannot write to drive *d*

- *There is no disk in the specified drive.*
- *The disk drive door may be open, or the disk may be improperly inserted (if a floppy disk drive is specified).*
- *Windows could not write to the disk in the drive you specified. The disk may be defective, damaged, or unformatted. (See your DOS manual for details about disk errors.)*
  Choose Retry to try the operation again. If a floppy drive is specified, be sure the disk is properly inserted. If you continue to receive the message, choose Cancel.

Insert *program* or *disk name* in drive *d*

- *Windows needs a program or file that is not on the disk in the active drive.*
  Insert the specified disk and choose Ok.

No more files can be opened

- *DOS is already running the maximum number of files.*
  Close one or more of the applications you have running and try running the selected program again.

Not enough memory to run

- *Windows tried to run a standard application that requires more memory than is currently available.*
  Close one or more applications, then try to run the application again.

Printer not ready

- *The printer may be out of paper or the printer is not on.*
  Be sure the printer paper is properly installed and that the printer is connected and turned on.

Write protected disk in drive *d*

- *The disk in drive* d *is write-protected.*
  To write to this disk, remove the write-protect tab and choose Retry. Otherwise, choose Cancel.

MS-DOS Executive Messages

Cannot change directory to *name*

- *You have specified a filename instead of a directory name.*
  Select or type a directory name, then retry the Change Directory command.

Cannot copy file to itself

- *You have attempted to copy a file to the same filename on the same disk or in the same directory. This is not allowed because it would destroy the file.*
  Copy the file again, specifying a different filename.

Cannot copy more than one file to a single file

- *You have selected more than one filename and specified a single file as the destination.*
  Select the file you want to copy and start again. To copy multiple files, specify a directory to copy them into.

Cannot create directory *directory name*

- *You tried to create a directory using a name that already exists in the current directory.*
  Retry the command with a unique directory name.
- *You tried to create a directory on a disk that is write protected.*
  Remove the write-protection tab, then retry the command.

Cannot create *filename*

- *You tried to save your work to a read-only file.*
  Specify another filename when you save your work.

Cannot delete *filename*

- *You have tried to delete a file on a write-protected disk.*
  Remove the write-protection tab and try again.
- *You have tried to delete a read-only file.*
  You cannot delete the file.

Cannot delete the current directory

- *You have attempted to delete the current directory. This is not allowed, even if the directory is empty.*
  Move to the parent directory and start again.

Cannot find *filename*

- *You have chosen an action requiring a file, and the MS-DOS Executive cannot find the file in the directory or on the disk.*
  Make sure you typed the filename correctly. You may need to change directories to locate the file, or you may need to type a pathname before the filename. If the file is not on the disk, insert the disk containing the file in the drive. Choose the command and try again.

Cannot format diskette

- *The disk is probably defective or read-only.*
  Replace the disk and try again.

Cannot print

- *Your printer is not properly installed (this includes having proper settings in the WIN.INI file).*
  Check the printer connections and Control Panel printer settings. Set your printer up properly and start again. (See Chapter 7, "Using the Control Panel," for details about printer settings.)

Cannot put DOS system on the diskette

- *The disk cannot be formatted with the system files.*
  Put a blank formatted disk in the drive and retry the command.

Cannot rename *name*

- *The specified file does not exist in the current directory or on the disk.*
  Make sure the filename exists, then retry the Rename command. You cannot rename a directory.

Cannot run *filename*

- *An error has occurred while running a program.*
  Retry the Run command. If the command still does not work, be sure you are trying to run the correct file.

Cannot set volume name

- *The disk is write protected.*
  Remove the write-protection tab.
- *The disk is full.*
  Check the directory to see if any files can be removed, then try again.

Directory is not empty

- *The directory still contains files.*
  Delete the files from the directory, or move them to a different location, and start again.

directory name has no files in it

- *You tried to copy files from an empty directory.*

  Check to see that you used the correct directory name.

Disk is full

- *You have tried to save a file, or have carried out an action that requires creating a new file (such as copying), and the disk is full.*

  Insert another disk, or delete any unwanted files and directories from the disk, and try again.

Multiple destinations not allowed

- *You have attempted to copy a single file to more than one new file, or to rename a single file with more than one new name.*

  Copy or rename the file to a single destination.

Multiple files not allowed

- *You have specified too many filenames for a command.*

  Retry the command with only one filename specified.

Not enough memory

- *You have carried out an action, such as copying a file, that requires more memory than Windows currently has available.*

  Close one or more applications and try again.

Not enough memory to display entire directory

- *The MS-DOS Executive requires more memory than is currently available to display the directory in full.*

  If you want to see the entire directory, close one or more applications.

Not enough memory to run _filename_

- *Windows tried to run a program that requires more memory than is currently available.*

  To run the program, close one or more applications, then choose the Run command again.

This will end your Windows session

- *You chose the End Session command, and Windows is asking you to confirm that you really want to end the session.*

  Choose Ok to end the session. Choose Cancel to cancel the End Session command and continue working with Windows.

The following MS-DOS Executive error messages may appear when you attempt to run standard applications:

Application still active

- *A standard application is still open. This message will appear if you attempt to end the Windows session while a standard application is still running.*

  Close any standard applications that may be running. For most applications, use the quit or exit command.

Cannot run with other applications

- *The program you selected is a special application that loads and stays resident or has the Modifies Memory option set in its PIF file.*

  You must close all applications except the MS-DOS Executive before you can start this program.

COM1 and COM2 is not available

- *The application that you selected requires access to serial communications port 1 or 2.*
- *You do not have a serial communications card installed as COM1 or COM2.*

  To run the program you selected, you must close any other application that accesses the COM1 or COM2 port. If you don't have a serial port you cannot run the selected program.

COM1 is not available

- *The application you have selected requires access to serial communications port 1 (COM1).*
- *You do not have a serial communications card installed as COM1.*

  To run the program you selected, you must close any other application that accesses the COM1 port. If you don't have a serial port you cannot run the selected program.

COM2 is not available

- *The application that you selected requires access to serial communications port 2 (COM2).*
- *You do not have a serial communications card installed as COM2.*

  To run the program you selected, you must close any other application that accesses the COM2 port. If you don't have a serial port you cannot run the selected program.

Initial directory not found

- *The initial directory for this program cannot be found or is invalid.*

  Check the PIF file for the program and be sure that the initial directory setting is correct.

Need more disk space

- *You attempted to load a standard application that required that Windows swap another application to disk. There was insufficient disk space for swapping.*

  Close one of the other standard applications you have running and try the command again. If there is still limited space remaining on the swap disk, you may consider deleting some files.

Need WINOLDAP files to run program

- *The program you selected requires the Windows system files WINOLDAP.MOD and WINOLDAP.GRB to run.*

  These files should be in the same directory as your other Windows system files. Check the directory to make certain that they are available, and then try running the program again.

Appendix C
Using Extended Memory for Standard Applications

The Microsoft Windows Utilities disk contains a special program that sets up part of your computer's memory for use with standard applications. This program, named RAMDrive™, provides special advantages.

This appendix describes

- How to set up RAMDrive
- How to run standard applications using RAMDrive
- The messages you may see from RAMDrive

Advantages of RAMDrive

As described in Chapter 9, "Techniques for Standard Applications," Windows can load and switch between multiple standard applications, even if the memory requirements exceed the amount of memory available. Windows swaps applications to a hard disk or to an area in extended memory. The RAMDrive program sets up extended memory as a swap area.

RAMDrive works with the following hardware:

- Any MS-DOS personal computer with extended memory
- IBM PC AT, or PC AT compatible, with extended memory
- Any IBM PC, or PC compatible, with the INTEL® Above™ Board
- Any IBM or MS-DOS personal computer with memory allocated for disk emulation programs

You will most likely use RAMDrive if you have extended memory or an INTEL Above Board.

How to Set Up RAMDrive

Install your extended memory hardware according to the manufacturer's instructions.

Setting up RAMDrive

To set up your system to use RAMDrive

1. Create or edit an existing CONFIG.SYS file, using a text editor program.

   If you have Windows set up, you can use Notepad.

   You'll find CONFIG.SYS in your boot directory (the disk or directory you start DOS from). For information about CONFIG.SYS files, see your DOS reference manual.

   See the section "Using Above Board With Microsoft Windows" and your Above Board installation manual for more information.
2. If you have an INTEL Above Board, you must set up the appropriate configuration parameters in your CONFIG.SYS file. This line must precede any RAMDrive command lines.
3. Insert the RAMDrive command line. (See the following section, "The RAMDrive Command Line," for more information.)
4. Save the CONFIG.SYS file in your boot directory. If you run Windows from a floppy disk, save CONFIG.SYS on your Startup disk. If you run from a hard disk, save CONFIG.SYS in the hard disk's root directory.
5. Restart your computer with the on/off switch or by pressing the CTRL-ALT-DEL keys at the same time.

Once you've completed this procedure, RAMDrive will be set up each time you start DOS.

The RAMDrive Command Line

In the following description of the RAMDrive command line

- Brackets surround optional fields.
- Italics represent the type of entry to be made in a field.
- Capital letters indicate text which must be entered as shown. The text may be entered in either uppercase or lowercase.

The RAMDrive command line

The RAMDrive command line has the following form:

```
DEVICE=[d:][path]RAMDRIVE.SYS [size] [sectors] [entries] [/E or /A]
```

DEVICE= Tells DOS to install a device driver. In this case, RAMDrive is the device driver program.

d: The disk drive where you store the RAMDRIVE.SYS file. If the file is on the disk you use to start DOS, you needn't include a disk drive designation.

path The directory where you store the RAMDRIVE.SYS file. If the file is in the directory you use to start DOS, you needn't include a pathname.

RAMDRIVE.SYS The name of the RAMDrive program file. You must include this part of the command line.

size The amount of memory you want this RAMDrive to have. Include this part of the command line only if you want more memory than 64K, or if you want to include numbers for *sectors* or *entries*. You can type a number from 16 (16K bytes) to 4096 (4 megabytes). The *size* cannot exceed the amount of memory on your extended memory board. To use all of the extended memory for the RAMDrive, type a number equal to the amount of extended memory you have. If you do not want to use all of your extended memory for RAMDrive, see the following section, "Calculating RAMDrive Size Requirements," for details on calculating how much memory you will need.

sectors The number of bytes per sector. Include this part of the command line only if you need sector sizes larger than 128 bytes. RAMDrive accepts only the numbers 128, 256, 512, and 1024. IBM Personal Computer DOS permits a maximum of 512 bytes per sector.

If you do not understand the purpose of this number, either omit this part of the command line or type 128. You must type a number in this part of the command line if you want to type a number for *entries*.

entries The maximum number of root directory entries you want in the RAMDrive. Entries are either filenames or directory names. Include this part of the command line only if you want more than 64 entries. You can type a number from 2 to 1024.

The value of *entries* is adjusted up so that the area for the root directory entries fills to the nearest sector size boundary. For example, if you give a value of 25, and the sector size is 512 bytes, 25 will be rounded up to 32 which is the next multiple of 16 (there are 16 32-byte directory entries in 512 bytes).

/E or /A Switches that specify your hardware. Use the switches as follows:

Use	For
/E	IBM PC AT, or PC AT compatible, with extended memory
/A	INTEL Above Board as expanded memory

If you have a different piece of hardware, omit this part of the command line.

Calculating RAMDrive Size Requirements

Although you'll usually want to set *size* equal to the total amount of available memory, you can calculate how much memory you need.

The memory you set up determines the amount available for swapping. The *size* cannot exceed the amount of memory on your extended memory board. For example, if you want to switch between three standard applications and the largest requires 256K, then set the size to 1013K.

Calculating size requirements

To calculate the requirement for *size*

1. Find the size requirement for your largest application, as stated in the program's documentation or what you have set in the application's PIF file.
2. Add 75K.

   This is the space required for program switch and screen exchange information.
3. Multiply the sum of these two numbers by the number of standard applications you expect to run.
4. Multiply the result by 1.02 and round the result up to the next whole number.

   This adds 2% to the total space requirement for the DOS region of RAMDrive.
5. Type the result in the *size* part of the RAMDrive command line.

Sample RAMDrive Command Lines

The following are two sample RAMDrive command lines with explanations of their effects:

Sample One

Sample one

```
DEVICE=RAMDRIVE.SYS /E
```

This command line gives you 64K of memory for disk storage and up to 64 files and directories in this RAMDrive. The RAMDrive is in IBM PC AT extended memory. DOS looks for RAMDRIVE.SYS in the drive or directory you start DOS from.

Note If the amount of memory you set aside for RAMDrive is equal to the amount of extended memory available, RAMDrive uses 1K for administrative purposes. In this example, if your memory available is just 64K, you will have 63K available for the RAMDrive.

When RAMDrive is set up, the following message will appear:

```
Disk size: 64 k
Sector size: 128 bytes
Allocation unit: 1 sectors
Directory entries: 64
```

Sample Two

Sample two

```
DEVICE=C:\WIN\RAMDRIVE.SYS 1024 128 256 /A
```

This command line gives you 1024K (1 megabyte) of memory for disk storage and up to 256 files and directories in this RAMDrive. The RAMDrive is on the Above Board memory. DOS looks for the RAMDRIVE.SYS file in the win directory on drive C:.

When RAMDrive is set up, the following message will appear:

```
Disk size: 1024 k
Sector size: 128 bytes
Allocation unit: 2 sectors
Directory entries: 256
```

How to Set Up Windows to Use RAMDrive

Once you have a RAMDrive command line in your CONFIG.SYS file, RAMDrive is set up automatically every time you start DOS. You should copy the RAMDRIVE.SYS file to the same drive and directory as your CONFIG.SYS file.

To assure that Windows automatically uses RAMDrive to swap standard applications, you need to go to your WIN.INI file and change the setting for SwapDisk=?.

To change the SwapDisk setting

1. Run Notepad and open the WIN.INI file.
2. Replace the ? in SwapDisk=? with the drive letter assigned to RAMDrive.

   DOS assigns RAMDrive the next available drive letter. For example, if you have a hard disk system with one floppy disk drive (A:) and one hard disk (C:), RAMDrive becomes D:.
3. Save the WIN.INI file.

Refer to Chapter 9, "Techniques for Standard Applications," and Appendix A, "Customizing Your WIN.INI File," for details of the SwapDisk setting.

Once you set the SwapDisk setting in your WIN.INI file to the RAMDrive letter, Windows automatically uses RAMDrive to swap standard applications.

How to Use RAMDrive with Windows

Using RAMDrive with Windows

1. Start your computer and DOS.

   DOS will set up RAMDrive automatically.
2. Start Windows.

Windows sets the size of the swap area to the size of the largest application you run. If you want to set a minimum swap area size, change the SwapSize setting in your WIN.INI file. Refer to Appendix A, "Customizing Your WIN.INI File," for details of the SwapSize setting.

The RAMDrive Messages

Bad or missing *d:path* RAMDRIVE.SYS

- *The drive letter (*d:*) or the pathname (*path*) are incorrect. The RAMDRIVE.SYS file is not in the drive or directory shown in the RAMDrive command line.*

  Edit your CONFIG.SYS file and type the correct drive and pathname in the RAMDrive lines.

Microsoft RAMDrive version *Y.YY* virtual disk *d:*

- *This RAMDrive message appears when DOS sets up RAMDrive.*

  Y.YY is the version of RAMDrive.

  d: is the DOS drive letter assigned to this RAMDrive.

  The "virtual disk d:" part of this message does not appear on computers using DOS 2.x.

  Check the following information when it appears on your screen, and change the corresponding parts of the command line as necessary:

```
Disk size: x k
Sector size: x bytes
Allocation unit: x sectors
Directory entries: x
```

  This information from RAMDrive tells you

Message	Indicates
Disk size	How much memory RAMDrive assigned to the drive. When you use the /E switch or no switch, size shown may be 1K smaller than the size in the RAMDrive command line.
Sector size	How many bytes are in a sector.
Allocation unit	How many sectors are in an allocation unit.
Directory entries	How many root directory entries can exist (includes one for the volume label).

RAMDrive: Above Board Memory Manager not present

- *You included the /A switch in the RAMDrive command line, but RAMDrive could not find the Above Board memory manager.*

  Your system boot disk did not install the Above Board memory manager. Your CONFIG.SYS file did not contain the appropriate information. Consult your Above Board documentation for correct installation instructions.

RAMDrive: Above Board Memory Status shows error

- *While trying to set up the RAMDrive in Above Board memory, DOS detected an error. DOS will not install the RAMDrive program.*

  Run the Above Board Confidence test to check the Above Board memory. Take the appropriate corrective action as instructed in the Above Board manual.

RAMDrive: Computer must be PC-AT, or PC-AT compatible

- *You should include the /E switch only when you have an IBM PC AT or PC AT compatible computer. DOS will not install the RAMDrive program.*

  Delete /E from the RAMDrive command line.

RAMDrive: Incorrect DOS version

- *RAMDrive runs only on 2.x and 3.x versions of DOS. DOS will not install the RAMDrive program.*

  Because Microsoft Windows requires DOS 2.x or later, you need to switch to a 2.x or later version of DOS so you can run Windows as well as RAMDrive.

RAMDrive: Insufficient memory

- *Your system has insufficient memory available for RAMDrives. DOS will not install the RAMDrive program.*

  If you want to use the RAMDrive program, you must add memory to your system.

  As an alternative solution, reset the system memory switch settings inside the computer to reserve memory for a RAMDrive. For instructions on setting switches, refer to your computer's technical reference or the manual provided with any of your computer's memory boards.

RAMDrive: Invalid parameter

- *The command line contains too many parts, such as more than three numbers or more than one pathname.*
- *One of the numbers for size, sectors, or entries in the command line exceeds the range of permitted numbers. For example, you may have the RAMDrive size set for 8K, which is too small.*
- *You included both /E and /A in the same RAMDrive command line.*

  DOS will not install the RAMDrive program.
  Edit your CONFIG.SYS file and change the incorrect RAMDrive lines.

RAMDrive: I/O error accessing drive memory

- *DOS detected an error while trying to set up RAMDrive. DOS will not install the RAMDrive program.*

  Run memory tests to check the memory where RAMDrive is set up.

RAMDrive: No extended memory available

- *Your system has no memory available for RAMDrives. DOS will not install the RAMDrive program.*

  If you want to use the RAMDrive program, you must add memory to your system.

  As an alternative solution, reset the system memory switch settings inside the computer to reserve memory for a RAMDrive. For instructions on setting switches, refer to your computer's technical reference or the manual provided with any of your computer's memory boards.

Using Intel's Above Board with Microsoft Windows

In addition to conventional memory, Intel's Above Board/AT can supply *extended memory and expanded memory:*

- *Extended memory* is the 15M-byte address space outside of the memory DOS can access. Most AT add-on boards supply this kind of memory. Only ATs and AT compatibles can use extended memory.
- *Expanded memory* is memory beyond the 640K-byte limit that RAM disks, print buffers, and application programs written according to the Lotus/Intel Expanded Memory Specification can use. Most personal computers can use expanded memory, but you must include the special software described in this section.

How to Use Extended Memory with Microsoft Windows

To use the Above Board's expanded memory with Microsoft Windows, you'll need to copy a file from the Windows Utilities disk to the Intel Above Board disk.

1. If your computer is an AT, copy the EMM.AT file from the Windows Utilities disk to EMM.SYS on the Above Board disk.

   or

   If your computer is a PC or an XT, copy the EMM.PC file from the Windows Utilities disk to EMM.SYS on the Above Board disk.

2. Insert the Above Board disk in drive A, follow the instructions in the Above Board manual, and run either SETUPAT (for ATs) or SETUPAB (for PCs or XTs). If you run Windows from a floppy disk, be sure to use SETUPAT or SETUPAB to set up your Windows Startup disk. Then follow the instructions in the preceding section to add any RAMDrive command lines.

For assistance in using Above Board, contact Intel Customer Support (see your Above Board documentation for the phone number).

Terms

Active Describes a window or icon that is selected; the window or icon to which your next command will apply. See *Select.*

Application A program used for a particular kind of work, such as word processing or database management.

Automatic tiling The resizing of windows on the screen so that all are visible. When you expand or move a window, other windows already on the screen are automatically adjusted to make room.

Boot To start up your computer, or to restart it, loading the MS-DOS operating system.

Check box A small square box that appears in a dialog box. Check boxes are generally associated with multiple options that you can set. To set a check box option, move to it and press SPACEBAR or click the mouse button.

Choose To select a command from a menu, or an option from a dialog box. See *Select.*

Click To press and release a mouse button quickly. When you click a mouse button, you should hear and feel a faint click.

Clipboard A storage area for holding text or data that you are copying or moving. To see the contents of the Clipboard, run the Clipboard program.

Close To remove an application's window and icon from the screen. To close an application, choose the Close command from the application's System Menu. Once you have quit an application, you must run it to use it again.

Command A word or phrase, usually found in a menu, that carries out an action.

Command buttons Large rectangular buttons that appear in dialog boxes. The Cancel button always cancels the command. The Ok button carries out the command. Occasionally, instead of Ok, the button that carries out the action will have a label that describes the action — for example, Save.

Copy To put a copy of the selected text in the Clipboard so you can transfer it to another location. Many WIN applications have a Copy command that performs this task. If you are using a standard application that runs in a window, Windows adds the Copy command to the System Menu.

Cut To remove selected text and place it in the Clipboard so you can move it to another location. Some applications may have a Cut command that performs this task.

D

Dialog box A window that appears when Windows needs further information before it can carry out a command. For instance, if you choose the Delete command from the File Menu in the MS-DOS Executive window, a dialog box will appear, asking for the name of the file you want to delete.

Directory A structure for organizing your files into convenient groups. A directory is like an address showing where your files are. A directory can contain files, or subdirectories of files. When you display a directory, you also see . (the current directory) and .. (the parent directory).

Double click To rapidly press and release a mouse button twice without moving the mouse. This action carries out the selected task or option.

Drag To hold the mouse button down while moving the mouse. For example, you drag an icon into the work area to expand the icon into a window.

E

Expand To make an icon into a window in the work area. To expand an icon into a window, choose the Icon command, move the icon into the work area, or double-click the icon with the mouse.

Extend To select more than one item or character within a window. To extend the selection, hold down the SHIFT key, then select as usual. Release the SHIFT key when you have selected everything you want.

Extended memory Memory higher than 640K. Extended memory is either the INTEL Above Board or one of the extended memory options available for IBM PC AT and other 286-based personal computers.

F

Flashing underscore The flashing line or cursor that appears underneath objects on the screen to show you where you are. In most cases, pressing the DIRECTION keys or the TAB key moves the flashing underscore.

Highlight Highlighting indicates that the object is selected and will be affected by your next action. A highlighted object appears in reverse video. Highlighted icons are outlined in white.

Icon A small graphic symbol representing an application. When you shrink an application into an icon, the application is still running in memory but is not taking up space in the work area. You can expand an icon into a window when you want to use the application again.

Icon area The bottom of the screen, below the work area. When you move an icon into the icon area, you remove the associated application window from the work area. However, the application is still running in memory.

Inactive Describes a window or icon that is not selected. See *Select.*

Insertion point The place text will be inserted when you type. The insertion point usually appears as a flashing vertical line, and can appear in the work area or within a dialog box. The text you type appears to the left of the insertion point, which is pushed to the right as you type.

List box A box listing all available choices for a command — for example, the filenames of all printer drivers on the disk. A list box appears within a dialog box. Usually, you select the item you want from the list box, then choose Ok. If there are more choices than can fit in the list box, the list box will have vertical scroll bars.

Menu Menus are lists of available Windows and application commands. Menu titles appear in the menu bar at the top of the window. You choose a command from a menu by displaying the menu, then choosing the command you want.

Menu bar The bar that lists the titles of menus. The menu bar appears under the title bar of a window.

Mouse A pointing device that you move across a flat surface to move the pointer on your screen. A mouse has one or more buttons that you press to carry out various actions.

Option button A small, round button that appears in a dialog box. Within a group of related option buttons, you can make one selection. To set an option button, use the DIRECTION keys or click the option button with the mouse.

P

Paste To put something into a document or file from the Clipboard. Some applications may have a Paste command that performs this task. If you are using a standard application that runs in a window, Windows adds the Paste command to the System Menu.

Pathname A description of the location of a directory or file within the system. The pathname consists of the drive letter, followed by directory and subdirectory names, followed by a filename. Each name is separated from the previous one by a backslash.

Point To move the pointer on the screen until it rests on the object you want.

Pointer A small graphic symbol that shows mouse users their location on the screen. The mouse pointer is usually shaped like an arrow, but changes shape during certain tasks.

Program information (PIF) file A file containing information about a standard application. Windows needs information about how the program uses system resources and memory. If Windows cannot find a PIF file, it uses default settings to run the program.

R

RAMDrive A program that sets up extended memory as a disk drive. Windows uses this RAMDrive as needed to swap standard applications.

Run To start an application. The Run command lets you specify parameters for the application.

S

Scroll To move data or text up and down, or left and right, to see parts of the file that cannot fit on the screen.

Scroll bars The gray bars that appear at the right side or bottom of some application windows. You use scroll bars to move through a window that contains more information than can be shown in one screen. The scroll bar at the right side of a window scrolls vertically. The scroll bar at the bottom of a window scrolls horizontally.

Scroll box The small white box in the scroll bar. The scroll box reflects the position of the information within the window in relation to the total contents of the file. For example, if the scroll box is in the middle of the scroll bar, then the text or data in the window is in the middle of the file. If you have a mouse, you can scroll by dragging the scroll box in the scroll bar.

Select To indicate the object that the next command or option you choose will work on. See *Choose* and *Highlight.*

Shortcut key A special key sequence that lets you execute menu commands.

Shrink To turn a window into an icon. To shrink a window, choose the Icon command from the System Menu, or drag the icon into the icon area with the mouse. See *Expand.*

Size box The small box that appears in the right corners of some windows. The size box can appear in the upper or lower right corners, or in both. If you have a mouse, you can drag the size box to change the size of the window.

Special applications Applications that load with a Terminate and Stay Resident system call, or that trap system calls. Activate these applications from within a standard application that uses the entire screen.

Standard application Any application that runs under DOS that was not designed especially for Windows.

System Menu The menu appearing on every application that can run in a window. System Menu commands move, shrink, expand, close, and change the size of windows. Icons and some dialog boxes also have a System Menu. To display the System Menu, press ALT-SPACEBAR, or point to the System Menu box at the left side of the title bar, press the mouse button, and drag to the command you want.

System Menu box The small square at the left of a window's title bar. If you have a mouse, you can click this box to see the System Menu.

Text box A box where you type information needed to carry out a command. A text box appears within a dialog box. What you type appears to the left of the vertical line (insertion point) in the box, and the vertical line is pushed to the right as you type. The text box may be blank when the dialog box appears, or the text box may contain text if there is a default option or if you have selected something applicable to that command.

Title bar The bar across the top of each window that contains the name of the application in that window. The title bar also contains the System Menu box, and may contain a size box.

Wildcard A wildcard character (*) can be included in a filename to indicate any character or group of characters that might match that position in the filename. In Windows you can use the asterisk as a wildcard. For example, *.EXE indicates all files in the directory ending with the .EXE filename extension.

WIN applications Applications that were designed especially for Windows, and use all the features of the Windows graphical user interface (such as menus and dialog boxes).

Window A rectangular area on your screen in which you use an application. Every window has a title bar and a menu bar, and may have one or two scroll bars.

Work area The area of the screen where windows are expanded for you to work with.

Z

Zoom To temporarily make a window the full size of the work area. You "zoom" to make the window full size, and "dezoom" to return the window to its previous size.

Index

A drive selection 8
About command 132
Above Board *See* INTEL Above Board
Active defined 161
Active window 48, 58
Add New Printer command 99-100, 135
Alarm *See* Beep
Alert *See* Beep
All command 84, 134
ALT key
  command execution 11, 60, 61
  CTRL-DEL key combination *See* CTRL-ALT-DEL
  description 61
  menu display 10, 60, 61
ALT-PRINTSCREEN 120-121, 130
ALT-SHIFT-TAB
  icon selection 58, 65, 66
  window selection 58
ALT-SPACEBAR
  System Menu selection 10, 60, 62, 165
ALT-TAB
  icon selection 16, 58, 65, 66
  MS-DOS Executive selection 22
  window selection 16, 58, 117
ANSI.SYS 113, 125
Application
  closing
    command 132
    keyboard procedure 30, 71
    mouse procedure 54, 72
  command appending 132
  default settings 130
  defined 161
  filename *See* Filename
  information display 132
  information transfer *See* Information transfer
  memory requirements 141
  menu *See* Menu
  moving between *See* Switching
  name display 74
  nonWIN applications *See* Special application; Standard application
Application *(continued)*
  pasting information 123
  performance characteristics 125
  PIF *See* PIF editor; PIF file; PIF settings
  running
    See also Standard application
    automatic 139
    command 133
    description 77
    keyboard procedure 8-9, 65, 77-78
    mouse procedure 35-37, 65, 78
    PIF file procedure 124
    problems 125
  running as icon
    command 133
    keyboard procedure 20, 78
    mouse procedure 43-44, 78
  special application *See* Special application
  standard application *See* Standard application
  swapping *See* Swapping
  switching *See* Switching
Applications disk *See* Windows Desktop Applications disk
ASCII representation 121, 122, 123
Asterisk (*), wildcard character 165
Automatic tiling 22, 46, 161

Background color 104-106, 140
BACKSPACE key 63, 87
BASIC.COM 113
Batch file 90
Baud rate 103, 135, 141
Beep 71
Bellsoft Pop-Up applications 115, 129
Blink rate *See* Cursor
Boot defined 161
Boot directory 152
Brightness *See* Color
Bus mouse
  See also Mouse

Bus mouse *(continued)*
jumper setting xv
Button *See* Command button; Dialog box button; Mouse
By Date command 84, 134
By Kind command 84, 134
By Name command 84, 134
By Size command 84, 134

Calculator
icon expansion
keyboard procedure 18-19
mouse procedure 45-46
keyboard procedure 27-28
mouse procedure 51
running as icon
keyboard procedure 20
mouse procedure 43-44
window shrinking
keyboard procedure 28
mouse procedure 52
Calendar 138
Cardfile extension 138
Change Directory command 85, 134
Chart transfer *See* Information transfer
Check box
defined 161
description 63-64
Checkmark 84, 133
CHKDSK program 130, 143
Choose defined 161
Choosing *See* Selection
Clicking *See* Mouse
Clipboard
contents display 93
defined 161
description 91
information transfer 92, 112, 122, 123
running automatic 139
CLIPBRD.EXE 93
Clock 96-97, 139
Close command
application closing 30, 54, 71-72, 161
description 132
dialog box closing 65, 82
window closing 117
Close defined 161
Color
command 135
Color *(continued)*
settings 105-106, 140
Color monitor xv
Command
About 132
access 73
Add New Printer 99-100, 135
All 84, 134
appending 132
button *See* Command button
By Date 84, 134
By Kind 84, 134
By Name 84, 134
By Size 84, 134
cancellation 60
Change Directory 85, 134
checkmarks 84, 133
choosing *See* selection
Close
application closing 30, 54, 71-72, 161
description 132
dialog box closing 65, 82
window closing 117
Communications Port 103-104, 135
Connections 102, 135
Control Menu 109
control panel 135
Copy
Clipboard information insertion 92
description 133
file copying 80
information transfer 92, 122
Create Directory 83, 134
Cut 92
default 65
defined 161
Delete
description 133
directory deleting 88
file deleting 82
Delete Printer 101, 135
disabled 60, 62
End Session
confirmation 72, 147
description 134
Windows quitting 31-32, 55-56, 72
execution 11, 60-61
File Menu 133
Find 14-15, 40-41
Find Next 15-16, 41

Command *(continued)*
Format Data Disk 89, 134
Get Info 82, 133
gray 60, 62
High 109
highlighting 60, 61
Icon
description 132
icon expansion 66, 162
window shrinking 28, 70
Installation Menu 135
listing 131-135
Load 78, 133
Long 84, 133
Low 109
Make System Disk 89, 134
Mark 121
Move
description 132
icon moving 66
MS-DOS Executive icon expansion 17
switching 118
window moving 67
MS-DOS Executive 133-134
New 126
Open
execution 11-13, 38-39
PIF file opening 126
organization 10, 60
Partial 84-85, 134
Paste 82, 123
Pause 109
Preference Menu 136
Print
description 133
directory listing printing 88
file listing printing 88
file printing 81
WIN.INI file printing 137
Printer 103, 135
Priority Menu 109
Rename 79, 133
Resume 109
Run 78, 133
Save
document saving 30, 54
PIF file saving 126
Save As 30, 54
Screen Colors 104-105, 135
Scroll 119-120

Command *(continued)*
selection
keyboard procedure 10-13, 60-61
mouse procedure 38, 61
Set Volume Name 89, 134
Setup Menu 135
shaded 60, 62
Short 84, 133
Size
description 132
window sizing 25-27, 48-50, 68
Special Menu 134
spooler 109
System Menu 132
Terminate 109
View menu 133-134
Zoom
description 132
window zooming 29, 53, 69
zooming undoing 69
Command button
default 65
defined 161
location 63-64
Command line *See* RAMDrive
Command processor *See* MS-DOS Executive
COMMAND.COM 90, 113
Communications port
message 148
PIF file options 128-129
settings 103-104, 135
Communications Port command 103-104, 135
CONFIG.SYS 152
Connections command 102, 135
Control Menu 109
Control panel
commands 135
printer setting 140
running 95, 139
settings adjustment 95-106
CONTROL.EXE file 96
Copy command
description 133
file copying 80
information transfer 92, 122
Copying
Clipboard *See* Clipboard
copy defined 162
files 80, 133
information transfer 92, 122

Copying *(continued)*
message 145, 147
PIF file 113, 124
printer file 100
RAMDRIVE.SYS file 156
Create Directory command 83, 134
CTRL key 75, 88
CTRL-A 8
CTRL-ALT-DEL 152
CTRL-DIRECTION 60, 75
Current directory
pathname 74, 83
printing 88
Cursor
blink rate 98, 138-139
dialog box, moving within 12, 64
flashing underscore defined 162
moving 60, 75, 121
position indicator 62, 74
Cut command 92
Cut defined 162

Data disk 89, 134
Date adjustment 97
dBASE 113
Default option 65
Definitions 161-166
DEL key *See* CTRL-ALT-DEL
Delete command
description 133
directory deleting 88
file deleting 82
Delete Printer command 101, 135
Deleting
directory
message 145
procedure 88
file
command 133
message 145
procedure 82
printer file 101
Desktop Applications disk *See* Windows Desktop Applications disk
Device *See* Printer
DEVICE= 152, 153, 155, 158
Dialog box
button *See* Dialog box button
closing 65, 82

Dialog box *(continued)*
defined 162
description 62-63
item selection 64-65
meaning 11, 38
moving within 12, 64
significance 11, 38
Dialog box button
default option 65
description 63
execution 13
moving among 64
DIRECTION keys
CTRL key combination *See* CTRL-DIRECTION
cursor moving 121
dialog box, moving within 64
directory selection 75
file selection 75
highlight positioning 9, 11
insertion point moving 64
menu display 61
scrolling 70
size box moving 68
Directory
changing
command 134
keyboard procedure 85-86
message 145
mouse procedure 86-87, 134
creating
command 134
message 145
procedure 83
current 83, 88
defined 162
deleting
message 145
procedure 88
description 83
listing
appearance 83-85
description 75
display 133-134
options 83-85
other disks 88
printing 88, 133
message 145, 146, 147, 149
multiple, display 87
name change 146
pathname *See* Pathname

Directory *(continued)*
RAMDrive entry 153, 157
selection 75
write protection 145
Disk
checking 143
contents display 88
damaged 144, 146
desktop applications *See* Windows Desktop Applications disk
erasing 89
faulty 143, 144, 146
floppy disk 142, 143
formatting
message 143, 144, 146
procedure 89
full 146, 147
messages 143, 144, 146, 147, 149
MS-DOS *See* MS-DOS
naming 89, 134
swapping *See* Swapping
system *See* Windows System disk
utility *See* Windows Utilities disk
Windows setup *See* Windows Setup disk
write-protected 144, 145, 146
DISKCOPY.COM 113
DisplayWrite 3 113
Document saving
keyboard procedure 30
mouse procedure 54
DOS *See* MS-DOS
DOWN key
command selection 61
date adjustment 97
list box, moving within 64
scrolling 120
time adjustment 97
Dragging
command selection 38
drag defined 35, 162
icon 43
instructions 35
window shrinking *See* Window
Drive icon
description 74
selection 75, 88
Drive messages 143, 144

Editing
PIF file 125, 126
WIN.INI file 137
EDLIN.COM 113
END key 120
End Session command
confirmation 72, 147
description 134
Windows quitting 31-32, 55-56, 72
ENTER key
application running 9, 65
command execution 11, 60
default option selection 65
program running 9
scrolling quitting 120
SHIFT key combination *See* SHIFT-ENTER
standard application running 112
Erasing
See also Deleting
disks 89
Error message *See* Message
ESC key
cancellation function 10
command cancellation 60
dialog box closing 65, 82
menu cancellation 60
scrolling quitting 120
selection cancellation 121
Executive *See* MS-DOS Executive
Expand defined 162
Extend defined 162
Extended memory
defined 162
multiple applications running 115
RAMDrive 151-159
swapping *See* Swapping

File
batch files 90
change date 82, 84, 133
contents 79
copying
command 133
message 145, 147
procedure 80
creation date 82, 84
deleting
command 133
message 145

File *(continued)*
deleting *(continued)*
procedure 82
information 82, 133
listing
location 74
options 83-85
printing 88
message 144, 145, 146, 147
name *See* Filename
opening
keyboard procedure 11
message 144
mouse procedure 38
one step 78, 138
PIF file *See* PIF file
printer file *See* Printer file
printing
command 133
procedure 81
spooler 107-110
read-only 145
saving
keyboard procedure 30
mouse procedure 54
selection
keyboard procedure 11-12, 75, 76, 77
mouse procedure 38-39, 75, 76, 77
size display 82, 84, 133
File Menu 133
Filename
application, conventions 77
changing 79, 133
conventions 79
display 82, 133
extension 79, 138
highlighting 9, 12
listing
location 74
options 83-85
printing 88
message 145, 146, 147
PIF file 124
RAMDrive entries 153
Filing Assistant 113
Find command 14-15, 40-41
Find Next command 15-16, 41
Finder *See* MS-DOS Executive
Flashing underscore *See* Cursor
Floppy disk 142, 143
Font files 138-139
Format Data Disk command 89, 134
Format
disk
message 144, 146
procedure 89
storage in Clipboard 93

Get Info command 82, 133
Glossary 161-166
Graphics
adapter *See* IBM Color Graphics Adapter; IBM Enhanced Graphics Adapter
monitor xv
printing termination 110
switching 129
transfer restrictions 123
Graphics card 106

Hard disk
applications running
keyboard procedure 8
mouse procedure 36
multiple applications 115
swapping *See* Swapping
Windows
setup 2-3
startup 3
Hardware
RAMDrive
requirement 151
switches 154, 157, 158, 159
requirements xv
High command 109
Highlight
command 60, 61
defined 163
filename 9, 12
positioning 9, 11, 75
HOME key 120
Hue *See* Color

I-Beam 37
IBM Color Graphics Adapter xv, 105
IBM Enhanced Graphics Adapter
high resolution color 105
support xv

IBM Enhanced Graphics Adapter
(continued)
switching restrictions 129, 130
IBM PC AT
extended memory 162
RAMDrive 151, 154
Icon
application running
command 133
keyboard procedure 20, 78
mouse procedure 43-44, 78
area *See* Icon area
darkening 8, 35
defined 163
dragging 43
drive *See* Drive icon
expansion
command 132
defined 65
keyboard procedure 16-19, 65-66, 162
mouse procedure 42-43, 45-46, 66, 162
location 4
moving *See* expansion; positioning
positioning
effect 22, 46, 66-67
keyboard procedure 17-18, 20-21
mouse procedure 42-43
selection
keyboard procedure 16, 58, 65, 66
mouse procedure 58
shading 8, 35
spooler 108
standard application 114
window moving
keyboard procedure 22-24
mouse procedure 47
zooming 69
Icon area
color adjustment 104-106
defined 163
purpose 4
Icon command
description 132
icon expansion 66, 162
window shrinking 28, 70
Inactive defined 163
Information transfer
Clipboard use 112, 121, 122, 123
copying 122
feature xii
Information transfer *(continued)*
IBM Enhanced Graphics Adapter 130
mark, copy, paste method 121-123
marking 121-122
pasting 123
PIF file options 130
prevention 130
ALT-PRINTSCREEN method 120-121
text storage 121
Insertion point
defined 37, 163
description 62
moving 64
Installation Menu 135
INTEL Above Board
See also Extended memory
RAMDrive
message 158
setup 152
switch 154
Item *See* Object

Jumper xv

Key
ALT
command execution 11, 60, 61
description 61,
menu display 10, 60, 61
ALT-SHIFT-TAB
icon selection 58, 65, 66
window selection 58
ALT-SPACEBAR
System Menu selection 10, 60, 62, 165
ALT-TAB
icon selection 16, 58, 65, 66
MS-DOS Executive selection 22
window selection 16, 58, 117
BACKSPACE 63, 87
CTRL 75, 88
CTRL-A 8
CTRL-ALT-DEL 152
CTRL-DIRECTION 60, 75
DIRECTION
cursor moving 121
dialog box, moving within 64
directory selection 75
file selection 75

Key *(continued)*
DIRECTION *(continued)*
highlight positioning 9, 11
insertion point moving 64
scrolling 70
size box moving 68
DOWN
command selection 61
date adjustment 97
list box, moving within 64
scrolling 120
time adjustment 97
END 120
ENTER
application running 9, 65
command execution 11, 60
default option selection 65
program running 9
scrolling quitting 120
standard application running 112
ESC
cancellation 10
command cancellation 60
dialog box closing 65, 82
menu cancellation 60
scrolling quitting 120
selection cancellation 121
HOME 120
LEFT
color setting 105
menu display 60
scrolling 120
PAGE DOWN 70, 120
PAGE UP 70, 120
RIGHT
color setting 105
menu display 10, 60
scrolling 120
SHIFT
selection cancelling 59, 75, 88
selection extension 59, 75, 162
SHIFT-DIRECTION 121
SHIFT-ENTER 20, 78
SHIFT-TAB 64
SPACEBAR
dialog box button execution 13
dialog box item selection 64
selection cancellation 59, 75, 88
selection procedure 59
selection toggle 75
Key *(continued)*
TAB 12, 64
UP
date adjustment 97
list box, moving within 64
scrolling 120
time adjustment 97
Keyboard
application
closing 30, 71
running 8-9, 65, 77-78
running as icon 20, 78
calculator use 27-28
command
cancellation 60
execution 11, 60-61
highlighting 60-61
selection 10-13, 60-61
cursor blink rate adjustment 97-98
date adjustment 97
dialog box
button execution 13
item selection 64-65
Directly Modifies option 128
directory
changing 85-86
selection 75
disk contents display 88
document saving 30
file
opening 11
saving 30
selection 75, 76, 77
finding 14-16
icon
expansion 16-19, 65-66, 162
positioning 17-18, 20-21
selection 16, 58, 65, 66
menu
cancellation 10, 60
selection 10, 60, 61
MS-DOS Executive
icon expansion 16-19
moving 22-24
selection 22
object selection 59-60
option selection 14-16
program running 9
scrolling 71, 120
searching 14-16

Keyboard *(continued)*
standard application running 112
System Menu selection 10, 60, 62, 165
time adjustment 96-97
window
arranging *See* positioning
moving 22-24, 67
positioning 22-24
replacement 22
selection 16, 58, 117
shrinking to icon 28, 70
sizing 25-27, 68
zooming 29, 69
Windows quitting 31-32

LEFT key
color setting 105
menu display 60
scrolling 120
List box
defined 163
description 63
moving within 64
selection extension 59
Load command 78, 133
Long command 84, 133
Low command 109

Make System Disk command 89, 134
Mark command 121
Match case option 15, 41
Memory
application requirements 141
direct modification 115
extended *See* Extended memory
insufficiency 116
message 144, 147
PIF entry 142
PIF file options 127-128, 129
RAMDrive
allotment 153, 154, 157
error message 158, 159
size calculation 154
requirement xv
swapping *See* Swapping
switch setting 158, 159
Menu
bar *See* Menu bar

Menu *(continued)*
cancellation
keyboard procedure 10, 60
mouse procedure 38
color setting 104-106, 140
Control Menu 109
defined 163
drop-down vii, x
File Menu 133
Installation Menu 135
Preference Menu 136
Priority Menu 109
selection
extension 60
keyboard procedure 10, 60, 61
mouse procedure 37-38
Setup Menu 135
Special Menu 134
System Menu *See* System Menu
View Menu 84, 133-134
Menu bar
color adjustment 104-106
defined 163
description 4, 74
Message
display 71
MS-DOS Executive 145-149
printing 110
RAMDrive 155, 157-159
spooler 110
Windows 143-144
Microsoft Mouse Menu 115
Microsoft Windows *See* Windows
Mouse
application
closing 54, 72
running 35-37, 65, 78
running as icon 43-44, 78
buttons 34
calculator use 51
click
defined 35, 161
double click *See* double click
command selection 38, 61
cursor blink rate adjustment 98
date adjustment 97
defined 34, 163
dialog box item selection 64
directory
changing 86-87, 134

Mouse *(continued)*
directory *(continued)*
selection 75
disk contents display 88
document saving 30, 54
double click
defined 35, 162
rate adjustment 98-99, 138-139
dragging *See* Dragging
file
opening 38
saving 54
selection 38-39, 75, 76, 77
icon
expanding 42-43, 45-46, 66, 162
positioning 42-43
selecting 58
zooming 69
installation 106
instructions 34
jumper setting xv
Menu *See* Microsoft Mouse Menu
menu selection 37
moving 34
MS-DOS Executive
icon expansion 42-43
moving 47
object selection 59-60
option selection 40-43
point defined 35, 164
pointer 34, 164
press defined 35
program running 35-37
scrolling 71, 120
searching 40-41
standard application running 112
support xv
System Menu selection 48, 62
time adjustment 97
use instructions 34
window
moving 47, 68
selection 58, 117
shrinking to icon 52, 70
sizing 48-50, 68-69
zooming 53, 69
Windows
quitting 55-56
unresponsive xv
Windows Desktop Applications disk running 35
Move command
description 132
icon moving 66
MS-DOS Executive icon expansion 17
switching 118
window moving 67
Moving
Clipboard *See* Clipboard
cursor 60, 76
dialog box, moving within 64
icon
keyboard procedure 17-18, 20-21
mouse procedure 42-43
insertion point 64
mouse 34
mouse pointer 34
MS-DOS Executive
keyboard procedure 16-19
mouse procedure 47
size box 68, 69
window
command 132
keyboard procedure 22-24, 67
mouse procedure 47, 68
MS-DOS
command execution 90
RAMDrive, version 158
Windows
setup 2
startup 3
version requirement xv, 158
MS-DOS Executive
About command 132
application running 77-78
commands 133-134
description 73-74
disk formatting 89
error message *See* Message
files maintenance 5
icon expansion
keyboard procedure 16-19
mouse procedure 42-43
maintenance 5
message *See* Message
moving
keyboard procedure 16-19
mouse procedure 47
multiple windows 87
running automatic 139
selection 22

MS-DOS Executive *(continued)*
space available 132
system disk formatting 134
use 73

Name
disks 89, 134
files *See* Filename
New command 126
NonWIN application *See* Special application; Standard application
Notepad
closing
keyboard procedure 30
mouse procedure 54
CONFIG.SYS creating 152
filename extension 138
running
keyboard procedure 9
mouse procedure 36-37
window sizing
keyboard procedure 25-27
mouse procedure 48-50

Object
moving to 75
selection
cancelling 61
highlighting 75
procedure 59
Open command
execution
keyboard procedure 11-13
mouse procedure 38-39
PIF file opening 126
Operating system *See* MS-DOS; MS-DOS Executive
Option
button *See* Option button
default 65
gray 62
PIF file 126, 127-130
selection
keyboard procedure 14-16
mouse procedure 40-43
shaded 62
Option button 63-64, 163
Output device *See* Printer

PAGE-DOWN
color setting 105
scrolling 70, 120
PAGE-UP
color setting 105
scrolling 70, 120
Parity 103, 135, 141
Partial command 84-85, 134
Paste command 92, 123
Paste defined 164
Pathname
application running automatically 139
clicking 86-87, 134
defined 54, 83, 164
display 83
RAMDrive 153, 157
Pause command 109
Picture printing 81
PIF editor
application/PIF file matching 124
PIF file creating 125-126
screen resetting 126
PIF file
application
matching 124
running 124
changing 125-126
copying 113, 124
creating 125-126
defined 164
editing 125, 126
filenames 124
message 148
opening 126
options 126, 127-130
purpose 124
saving 126
special applications 115
standard application running 113
PIF settings 141-142
PIFEDIT.EXE 125, 126
Planning Assistant 113
Pointer *See* Mouse
Port
communications 103-104, 135
printer 102, 135
settings 141
Preference Menu 136
Print command
description 133

Print command *(continued)*
directory listing printing 88
file listing printing 88
file printing 81
WIN.INI file printing 137
Printer
adding 99-100, 135
command *See* Printer command
connections 102
default 103, 135
message 143, 144, 146
options 103
ports 102-104, 135
removing 101, 135
serial communications port 135
serial printer 103-104
settings 138-139, 140
setup 81, 102-104
Printer command 103, 135
Printer file 99-101
Printing
background 107
cancelling 109-110
current directory 88
directory listing 88
file listing 88
files 81, 133
interrupting 109
messages 110, 146
order 107
pictures 81
printer *See* Printer
priority 109
queue 107
speed control 109
spool *See* Spooler
stopping 109
WIN.INI file 137
PRINTSCREEN key *See* ALT-PRINTSCREEN
Priority Menu 109
Program Information file *See* PIF file
Program running
keyboard procedure 9
message 146
mouse procedure 35-37
MS-DOS utility program 90
Protection *See* Write protection

Quitting Windows
command 134
confirmation 72, 147
keyboard procedure 31-32
mouse procedure 55-56
procedure 72
shortcut 72

RAMDrive
command line
description 152-154
examples 155
form 152-153
messages 157, 158, 159
samples 155
defined 164
drive letter
assignment 156
message 157
hardware
requirement 151
switches 154, 157, 158, 159
memory allotment 154, 157
messages 155, 157-159
pathname 153, 157
purpose 151
root directory entries 153, 157
setup 152, 156
size calculation 154
swapping 151, 156
RAMDRIVE.SYS
copying 156
defined 153
message 157
R:base 4000 113
Read-only file 145
Rename command 79, 133
Reporting Assistant 113
Resume command 109
Retry option 103, 141
Reverse video *See* Highlight
RIGHT key
color setting 105
menu display 10, 60
scrolling 120
Root directory 153, 157
Run command 78, 133
Run defined 164

Save As command 30, 54
Save command
  document saving 30, 54
  PIF file saving 126
Saving
  document
    keyboard procedure 30
    mouse procedure 54
  file
    keyboard procedure 30
    mouse procedure 54
  PIF file 126
  WIN.INI file 137
Screen
  arrangement 66-67
  colors 104-106, 135, 140
  Directly Modifies option 125, 128
  exchange *See* Information transfer
  PIF editor screen 126
  scrolling *See* Scrolling
  snapshot 121, 130
  startup, display 4
Screen Colors command 104-105, 135
Scroll arrow 71
Scroll bar
  color setting 104-106, 140
  defined 164
  list box 63
  presence 5, 77
Scroll box 71, 164
Scroll command 119-120
Scrolling
  keyboard procedure 70
  mouse procedure 71
  scroll defined 164
  standard application 119-120
  window 120
Searching
  keyboard procedure 14-16
  match case option 15, 41
  mouse procedure 40-41
Sector 153, 157
Selection
  A drive 8
  cancelling 75, 88, 121
  command
    keyboard procedure 10-13, 60-61
    mouse procedure 38, 61
  default option 65
  directory 75
Selection *(continued)*
  drive icon 75, 88
  extension 59-60, 75-76, 162
  file 11-12, 38-39, 75-77
  highlighting 75
  icon
    keyboard procedure 16, 58, 65, 66
    mouse procedure 58
  information transfer
    keyboard procedure 121
    mouse procedure 122
  menu
    extension 60
    keyboard procedure 10, 60, 61
    mouse procedure 37-38
  MS-DOS Executive 22
  object 59
  option
    keyboard procedure 14-16
    mouse procedure 62
  select defined 164
  System Menu
    keyboard procedure 10, 60, 62, 165
    mouse procedure 48, 62, 165
  toggle 59, 75
  window
    keyboard procedure 16, 58, 117
    mouse procedure 58, 117
Serial communications port
  message 148
  PIF file options 128-129
  settings 103-104, 135
Serial mouse
  See also Mouse
  support xv
Set Volume Name command 89, 134
Settings
  colors 104-106, 135, 140
  communications port 103-104, 135, 141
  control panel 95-106
  cursor blink rate 98
  date 97
  default 130
  devices 140
  filename extension 138
  mouse double click rate 98-99
  PIF 141-142
  ports 103-1-4, 141
  printers 99-103, 135, 140
  time 96-97

Settings *(continued)*
windows 138-139
WIN.INI file 137-142
Setup *See* Windows
Setup disk *See* Windows Setup disk
Setup Menu 135
Shell *See* MS-DOS Executive
SHIFT key
ALT-TAB combination *See* ALT-SHIFT-TAB
selection
cancelling 59, 75, 88
extension 59, 75, 162
SHIFT-DIRECTION 121
SHIFT-ENTER 20, 78
SHIFT-PRINTSCREEN 120-121, 130
SHIFT-TAB 64
Short command 84, 133
Shrink defined 165
Sidekick 115, 129
Size box
defined 165
moving 68, 69
window sizing 4, 132
Size command
description 132
window sizing 25-27, 48-50, 68
Size pointer 48-50
SPACEBAR
ALT key combination *See* ALT-SPACEBAR
dialog box
button execution 13
item selection 64
selection
cancelling 59, 75, 88
procedure 59
toggle 75
Special application
defined 165
description 115
message 148
popping up 115
running 115
switching inability 115, 129
system call trapping 115, 165
Special Menu 134
Spooler
background work 107
commands 109
icon 107
messages 110
Spooler *(continued)*
purpose 103
startup 103
Spotlight 115, 129
Standard application
See also Application
closing 117
defined 111, 165
display on screen 113-115
graphics transfer restrictions 123
icon description 114
information transfer *See* Information transfer
message 144, 148, 149
moving between *See* Switching
multiple applications running 112, 115-116
PIF file *See* PIF file
PIF settings 141-142
RAMDrive *See* RAMDrive
running
automatic 113
keyboard procedure 112
memory insufficiency 116
mouse procedure 112
multiple applications 112, 115-116
PIF file procedure 113, 124
RAMDrive *See* RAMDrive
screen dominance 114-115
screen sharing 113-114
space requirements 113-115
screen-sharing
commands 121
feature ix
running 113-114
scrolling 119-120
swapping *See* Swapping
switching *See* Switching
Startup *See* Windows
Stop bits 103, 135, 141
Swap area
extended memory 116, 151
PIF section 142
purpose 142
size setting 116, 142, 156
SwapDisk 142, 156
Swapping
floppy disk restriction 142
message 149
prevention 128, 129, 142
settings 142, 156
SwapSize 142, 156

Switching
  IBM Enhanced Graphics Adapter 129
  inability 115, 129
  permitted viii, 116
  PIF file options 129
  procedure 117-118
  screen-dominating applications 117-118
  screen-sharing applications 117
  special applications inability 115, 129
  two-drive system 116
System disk
  See also Windows System disk
  creating 89, 134
  defined 89
  formatting 89
System Menu
  commands 132
  defined 165
  selection
    keyboard procedure 10, 60, 62, 165
    mouse procedure 48, 62, 165
  standard for applications 17, 48
  window control 17, 48
System Menu box 4, 165
System message *See* Message

TAB key
  ALT key combination *See* ALT-SHIFT-TAB; ALT-TAB
  dialog box, moving within 12, 64
Terminal extension 138
Terminate and Stay Resident system call 115, 129
Terminate command 109
Terms 161-166
Text
  color setting 140
  filename extension 138
  insertion point *See* Insertion point
  PIF file options 129
  searching *See* Searching
  transfer between applications *See* Information transfer
Text box 63, 165
Tiling 22, 46, 161
Time adjustment 96-97
Title bar
  color setting 104-106, 140
  defined 4, 74, 165
Title bar *(continued)*
  window moving 47
Tone *See* Beep
TopView option 113
Two-drive system
  application running
    keyboard procedure 8
    mouse procedure 35
  application switching 116
  Windows
    setup 2
    startup 3
Typing correction 63

Underscore *See* Cursor
UP key
  date adjustment 97
  list box, moving within 64
  scrolling 120
  time adjustment 97
Utility disk *See* Windows Utilities disk
Utility program running 90

Vertical line *See* Insertion point
View Menu 84, 133-134
Virtual disk 157

Wildcard character 84-85, 165
WIN application
  closing 116
  defined vii, 165
  screen-sharing ix
  spooler 107
Window
  active 48, 58
  arranging *See* positioning
  closing 117
  color settings 104-106, 135, 140
  decreasing *See* sizing
  defined 166
  enlarging *See* sizing
  executive *See* MS-DOS Executive
  moving
    command 132
    keyboard procedure 22-24, 67
    mouse procedure 47, 68
  opening location 22, 46, 66-67

Window *(continued)*
positioning
keyboard procedure 22-24
mouse procedure 47
tiling *See* Automatic tiling
replacement 22, 46, 66
scrolling *See* Scrolling
selection
keyboard procedure 16, 58, 117
mouse procedure 58, 117
shrinking to icon
command 132
keyboard procedure 28, 70
mouse procedure 52, 70
purpose 70
sizing
automatic 67
command 132
keyboard procedure 25-27, 68
mouse procedure 4, 48-50, 68-69
WIN.INI settings 138-139
zooming
command 132
keyboard procedure 29, 69
mouse procedure 53, 69
Windows
applications *See* Application
configuration 102-104
control panel *See* Control panel
description vii
messages *See* Message
mouse *See* Mouse
MS-DOS version 158
package contents xiv
quitting
command 134
confirmation 72, 147
keyboard procedure 31-32
mouse procedure 55-56
procedure 72
shortcut 72
RAMDrive, setup 156
removal from screen 114
settings adjustment 95-106
setup 2-3
startup 3
stepping aside 116
switching *See* Switching
unresponsive to mouse xv
Windows Desktop Applications disk
contents xiv
description vii, 8
listing xi
PIF files 113, 124
safekeeping 3
startup
keyboard procedure 8
mouse procedure 35
Windows setup 2
Windows Setup disk 2-3
Windows System disk 3
Windows Utilities disk
contents xiv
printer driver files 99-100
RAMDrive *See* RAMDrive
safekeeping 3
Windows setup 2
WIN.INI file
changes effect 137
color settings 140
control panel changes 95
customizing 137-142
devices settings 140
editing 137
extensions settings 138
PIF settings 115, 124, 141-142
port settings 141
printer settings 135
printing 137
saving 137
sections 137
swap area settings 116, 156
SwapDisk setting 156
SwapSize setting 156
window settings 138-139
WINOLDAP file 149
Word length 103, 135
Work area defined 166
Write protection 144, 145, 146
Writing Assistant 113

Zoom command
description 132
window zooming 29, 53, 69
zooming undoing 69
Zooming
icon 69
undoing 29, 53, 69, 132

Zooming *(continued)*
window
keyboard procedure 29, 69
mouse procedure 53, 69
zoom defined 166

MICROSOFT®

10700 Northup Way, Bellevue, WA 98004

Software Problem Report

Name _____

Street _____

City _____ State _____ Zip _____

Phone _____ Date _____

Instructions

Use this form to report software bugs, documentation errors, or suggested enhancements. Mail the form to Microsoft.

Category

_____ Software Problem

_____ Software Enhancement

_____ Documentation Problem (Document #_____)

_____ Other

Software Description

Microsoft Product _____

Rev. _____ Registration # _____

Operating System _____

Rev. _____ Supplier _____

Other Software Used _____

Rev. _____ Supplier _____

Hardware Description

Manufacturer _____ CPU _____ Memory _____ KB

Disk Size _____" Density: Sides:

Single _____ Single _____

Double _____ Double _____

Peripherals _____

Problem Description

Describe the problem. (Also describe how to reproduce it, and your diagnosis and suggested correction.) Attach a listing if available.

Microsoft Use Only

Tech Support _____ Date Received _____

Routing Code _____ Date Resolved _____

Report Number _____

Action Taken:

MICROSOFT®

Microsoft Corporation
10700 Northup Way
Box 97200
Bellevue, WA 98009
USA

Microsoft Ltd
Piper House
Hatch Lane, Windsor
Berks SL4 3QJ
ENGLAND

QNIX Microsoft
Daedong Building
587-21 Sinsadong
Gangnamgu, Seoul 135
KOREA

Microsoft Far East
Sumitomo Minami Aoyama Building
5-11-5 Minami Aoyama
Minato-Ku, Tokyo 107
JAPAN

Microsoft GmbH
Erdinger Landstraße 2
8011 Äschheim/Dornach
DEUTSCHLAND

Microsoft Canada Inc
6300 Northwest Drive
Mississauga, ONT L4V 1J7
CANADA

Microsoft Pty Ltd
1/17 Rodborough Road
Frenchs Forest, NSW 2086
AUSTRALIA

Microsoft SARL
No. 519 Local Québec
91946 Les Ulis Cedex
FRANCE

0685 Part No. 050-050-001